

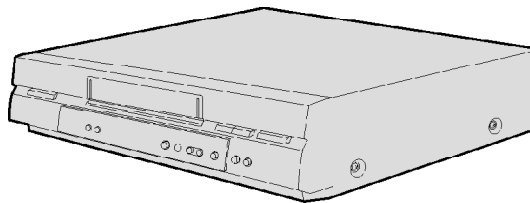
ORDER NO. VRD0202002C2

# Service Manual

Video Cassette Recorder

**Panasonic** **VHS** **Hi-Fi**  
PAL

**NV-FJ631EG / NV-FJ631EGY / NV-FJ631EC / NV-FJ630EG /  
NV-FJ630EGY / NV-FJ630B / NV-FJ630BL / NV-FJ630EC / NV-  
FJ630ECN  
Z-MECHANISM**



## SPECIFICATIONS

### SPECIFICATIONS

| ITEM             | SPECIFICATION                                                                                                  |                                                                                                                       | ITEM                  | SPECIFICATION                                                                                                                                                                                                                                       |
|------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POWER            | SOURCE: 220-240 V AC 50/60 Hz                                                                                  |                                                                                                                       | VIDEO                 | OUTPUT: EURO AV (AV1/AV2) Connector (21 pin)<br>1.0 Vp-p, 75 $\Omega$ terminated                                                                                                                                                                    |
|                  | CONSUMPTION: 18 watts<br>COMSUMPTION WHEN IN STANDBY MODE:<br>Approx. 3W (NV-FJ631EG/EGY/EC, S30EG/EGY/EC/ECN) |                                                                                                                       |                       | HEAD: 1 Stationary head (Normal-mono only)<br>2 channels (Hi-Fi Sound-Stereo)                                                                                                                                                                       |
| RECORDING SYSTEM | 2 rotary heads, helical scanning system                                                                        |                                                                                                                       | AUDIO                 | INPUT: EURO AV (AV1/AV2) Connector (21 pin)<br>More than -6dBV (500 mV), 10 k $\Omega$                                                                                                                                                              |
|                  | PAL                                                                                                            |                                                                                                                       |                       | OUTPUT: AUDIO OUT Connector (Phono type)<br>-6 dBV (500mV), Less than 1k $\Omega$<br>EURO AV (AV1/AV2) Connector (21 pin)<br>-6 dBV (500mV), Less than 1k $\Omega$                                                                                  |
| TV TUNER SYSTEM  | NV-FJ631EG/EGY/EC<br>NV-FJ630EG/EGY/EC/ECN                                                                     | VHF: CH2-CH12<br>CHA-CH12 (ITALY)<br>(PAL/SECAM B)<br>UHF: CH21-CH69 (PAL/SECAM G)<br>CATV: CHS01-CHS41 (PAL/SECAM B) | TAPE SPEED            | SP: 23.39 mm/s<br>LP: 11.695 mm/s<br>EP: 7.796 mm/s<br>Record/Playback Time:<br>SP: 4 hours with 240 min. type tape<br>LP: 8 hours with 240 min. type tape<br>EP: 12 hours with 240min type tape<br>FF/REW Time:<br>60 sec. with 180 min. type tape |
|                  | NV-FJ630B                                                                                                      | UHF: CH21-CH68 (PAL I)                                                                                                |                       |                                                                                                                                                                                                                                                     |
|                  | NV-FJ630BL                                                                                                     | VHF: CHA-CHJ (PAL I)<br>UHF: CH21-CH69 (PAL I)<br>CATV: 104-470MHz (PAL I)                                            |                       |                                                                                                                                                                                                                                                     |
|                  |                                                                                                                |                                                                                                                       |                       |                                                                                                                                                                                                                                                     |
| RF OUT SYSTEM    | NV-FJ631EG/EGY/EC<br>NV-FJ630EG/EGY/EC/ECN                                                                     | UHF: CH21-CH89 (PAL/SECAM G)<br>71 $\pm$ 3 dB $\mu$ , 75 $\Omega$ close                                               | OPERATING TEMPERATURE | 5°C - 40°C                                                                                                                                                                                                                                          |
|                  | NV-FJ630B                                                                                                      | UHF: CH21-CH88 (PAL I)<br>71 $\pm$ 3 dB $\mu$ , 75 $\Omega$ close                                                     | OPERATING HUMIDITY    | 35% - 80%                                                                                                                                                                                                                                           |
|                  | NV-FJ630BL                                                                                                     | UHF: CH21-CH89 (PAL I)<br>71 $\pm$ 3 dB $\mu$ , 75 $\Omega$ close                                                     | DIMENSIONS            | 430 (W)×67(H)×282(D) mm                                                                                                                                                                                                                             |
| VIDEO            | HEADS: 4 rotary heads<br>1 pair for recording and playback (L-R heads)<br>1 pair for trick play (L'-R' heads)  |                                                                                                                       | WEIGHT                | 3.5 kg                                                                                                                                                                                                                                              |
|                  | INPUT: EURO AV (AV1/AV2) Connector (21 pin)<br>1.0 Vp-p, 75 $\Omega$ terminated                                |                                                                                                                       | STANDARD ACCESSORIES  | 1 pc. DIN-RF Cable<br>1 pc. AC Mains Lead<br>1 pc. Infra-red Remote Controller                                                                                                                                                                      |

Weight and dimensions shown are approximate.  
Specifications are subject to change without notice.

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### **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# Panasonic

## 1. INTRODUCTION

This service manual contains technical information which will allow service personnel to understand and service this model.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note:

1. Adjustment procedures, Disassembly Procedures and Assembly Procedures for Mechanism Chassis are separate volume from this service manual. / Please refer to the service manual for Z-Mechanism Chassis. (Order No. VRD9802005C2)
2. The Model No. is indicated on the Schematic Diagram and Circuit Board Diagrams as follows.

| Model No.                      | Indication Mark |
|--------------------------------|-----------------|
| NV-FJ631EG/EGY, NV-FJ630EG/EGY | (A)             |
| NV-FJ630B                      | (B)             |
| NV-FJ630BL                     | (C)             |
| NV-FJ631EC, NV-FJ630EC/ECN     | (D)             |

## 2. GENERAL DESCRIPTIONS

### 2.1. SERVICE CAUTION

#### 2.1.1. REPLACING IC7702/EEPROM

When the EEPROM: IC7702 is replaced, applicable model code, option code and electrical adjustment data will not be available.

Therefore, enter and/or adjust the necessary data after replacing IC7702 by referring following procedure.

STEP1.REPLACE THE IC7702

1. Remove the C.B.A. with Mechanism unit by referring the Disassembly procedure.
2. Disconnect the AC plug and replace the IC7702.

## STEP2.INPUT THE MODEL & OPTION CODE

1. Set up the applicable model code and option code by ordering the following table.

| PROCEDURE                                                                                                                                                                                                       | F.I.P. DISPLAY                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Turn on the Service Mode<br>1.Press the FF key and the EJECT key simultaneously for more than 3 seconds.                                                                                                        |                               |
| Activate the Service Mode 2<br>2.While keep placing FF key, press the EJECT key in twice.                                                                                                                       |                               |
| Activate the Entering Mode.<br>3.Press the EJECT key for more than 3 seconds.                                                                                                                                   |                               |
| Set the Mode 2.<br>4.Press the CH UP key in twice.                                                                                                                                                              |                              |
| Display the Setting Code.<br>5.Press the POWER Button to turn the power on.                                                                                                                                     | <br>(Colon starts flashing) |
| Enter the Model and Option Code.<br>6.Service Screen is displayed on the monitor.<br>7.Set the applicable Model and Option code by using REW, PLAY, STOP and FF keys on theRemote Controller. (See Fig.S1 & S2) |                                                                                                                |
| Exit from Service Mode.<br>8.Press the POWER Button to turn the power off.<br>9. Press FF and EJECT keys simultaneously in 6 times.                                                                             | <br>(Normal Indication)     |

Fig.S1 Service Secreen (sample)

| Panasonic VCR   |              |
|-----------------|--------------|
| Service         |              |
| MAIN            | VXKJ0.07 * * |
| Time ref. pos.  | NONE         |
| Last error code | 00           |
| Model Code      | 81 (51h)     |
| Option Code 1   | 8 (08h)      |
| Option Code 2   | 212 (D4h)    |
| Option Code 3   | 6 (06h)      |
| Clock adjust    | + 0          |
| VPS/PDC default | OFF (depend) |

| Model No.      | Model / Code | Option Code 1 | Option Code 2 | Option Code 3 |
|----------------|--------------|---------------|---------------|---------------|
| NV-FJ631EG/EGY | 81 (51h)     | 8 (8h)        | 212 (D4h)     | 6 (6h)        |
| NV-FJ631EC     | 82 (52h)     | 8 (8h)        | 212 (D4h)     | 6 (6h)        |
| NV-FJ630EG/ECY | 81 (51h)     | 8 (8h)        | 212 (D4h)     | 6 (6h)        |
| NV-FJ630B      | 83 (53h)     | 40 (28h)      | 212 (D4h)     | 5 (5h)        |
| NV-FJ630BL     | 84 (54h)     | 40 (28h)      | 212 (D4h)     | 5 (5h)        |
| NV-FJ630EC/ECN | 82 (52h)     | 8 (8h)        | 212 (D4h)     | 6 (6h)        |

Fig. S2 Model Code & Option Code

**NOTE:**

Since all electrical adjustments data is still not available, perform the Electrical Adjustment continuously.

### 2.1.2. CYLINDER UNIT REPLACEMENT

#### 1. CYLINDER UNIT REPLACEMENT

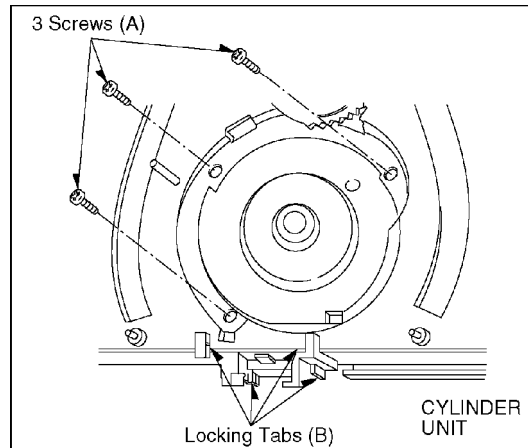
- A. Remove the mechanism unit from MAIN C.B.A./Chassis by referring "SECTION 2. Disassembly Procedure".
- B. Remove the 3 screws (A) of the CYLINDER UNIT with a screw driver.
- C. Unlock the 4 locking tabs (B) and disconnect the Cylinder flexible card from the FPC Holder.

**D. Remove the CYLINDER UNIT.**

**CAUTION:**

Handle the Cylinder flexible card with care. When it damaged, you should replace whole Cylinder unit.

**Fig. S3**



**2. UPPER CYLINDER DISASSEMBLY**

**A. Remove 2 screws (A).**

**B. Remove the Cylinder Stator Unit.**

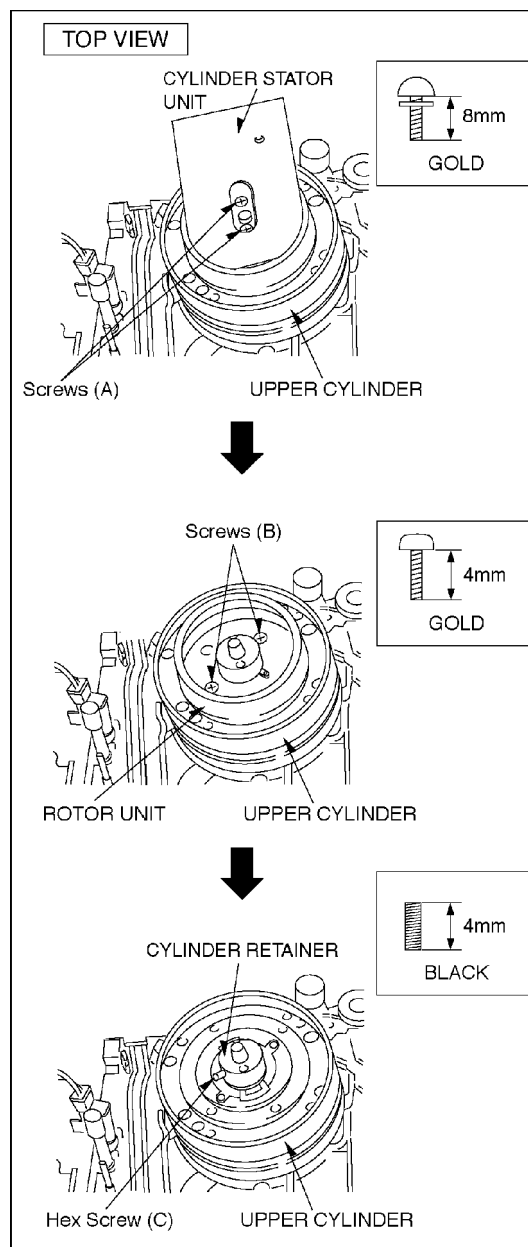
**C. Remove 2 screws (B).**

**D. Remove the Cylinder Rotor Unit.**

**E. Loose Hex screw (C) (1.5 mm) and remove the CYLINDER RETAINER.**

**F. Remove the Upper Cylinder.**

**Fig. S4**



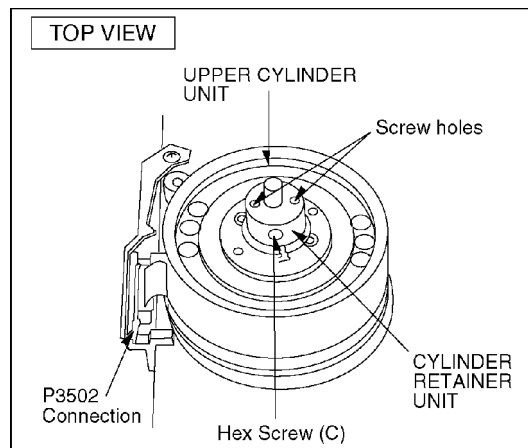
### 3. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order.

Notes:

1. Install the Cylinder Retainer so that the 2 holes on top of the Cylinder Retainer are at right angles with the P3502 Connection.
2. Tighten the Hex screw (C) (1.5 mm) while pressing down on top of the Cylinder Retainer.

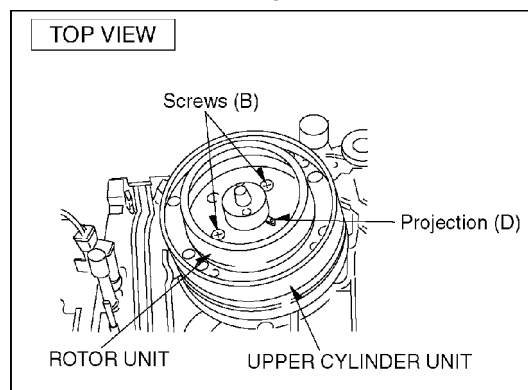
Fig. S5



**3. Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.**

**4. Tighten 2 screws (B).**

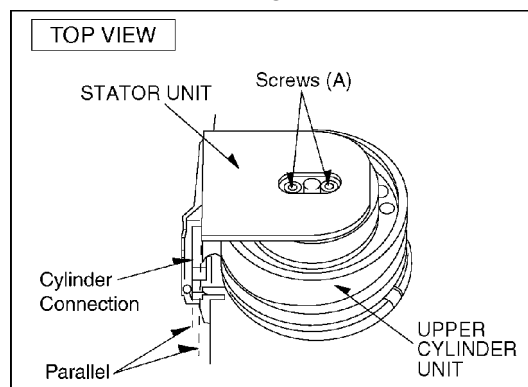
**Fig. S6**



**5. install the Cylinder Stator Unit.**

**6. Tighten 2 screws (A).**

**Fig. S7**



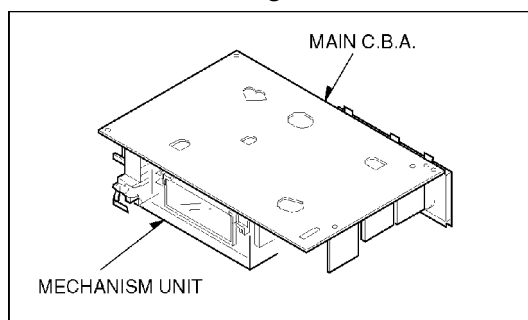
**7. Confirm the PG SHIFTER ADJUSTMENT with the alignment tape**

(PAL: VFJ8125H3F) and adjust it if necessary.

### 2.1.3. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over.

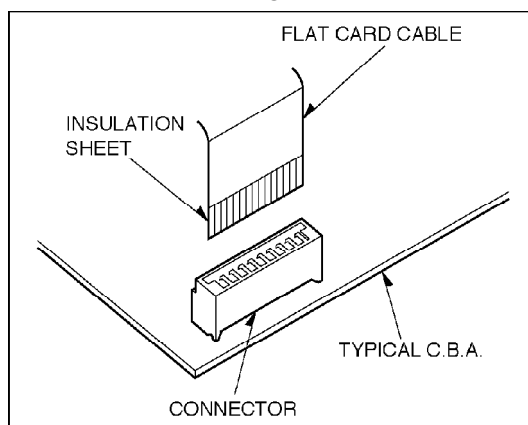
Fig. S8



### 2.1.4. FLAT CARD CABLE INSTALLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

Fig. S9



## 2.2. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

### 1. Service Information Display Operation

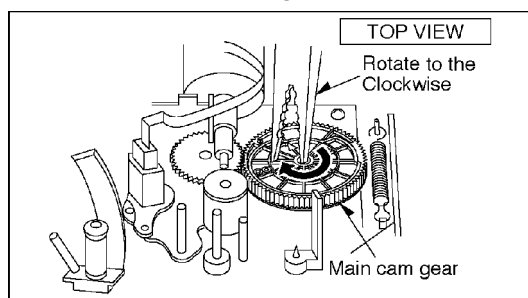
- A. Press the FF and EJECT keys simultaneously for 3 seconds and set the Service Mode 7.
- B. Press STOP key in order to rotate the Loading Motor for unloading operation. (Pay an attention of tape slack)

### 2. Manual Operation

- A. Disconnect the AC Mains Lead and remove the Top Panel.
- B. Rotate the Main Cam Gear clockwise until the Loading Posts

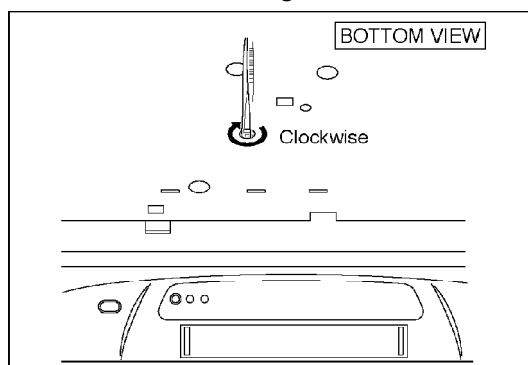
move to fully unloaded position as shown in **Fig. S10** . (Tape is remaining)

**Fig. S10**



**C. Rotate the Capstan Motor clockwise from the bottom side to take up the tape.**

**Fig. S11**



**D. Rotate the Main Cam Gear clockwise until the cassette tape is ejected.**

### **2.3. INTRODUCTION OF VIDEO HEAD CLEANING CASSETTE / (POLISHING TYPE)**

- 1. We are pleased to introduce Panasonic Video Head Cleaning Cassette, VFK0923FT [for service purposes] and VFK0923FSE [ for end users] for all VHS/SVHS VCP and VCR.**
- 2. These cleaning cassettes are exclusive removing the hard and sticky clogging on video heads.**
- 3. These improve the efficiency of video head cleaning service and shortening cleaning time for end users.**

| VFK0923FT<br>(For Service usage)                                                  |                   |
|-----------------------------------------------------------------------------------|-------------------|
| Type of Cassette                                                                  | Full VHS Cassette |
| Cleaning Time                                                                     | 10 Seconds/Time   |
| Tape Length                                                                       | 20 m              |
| Usability in a Path                                                               | 180 Times         |
|  |                   |

| VFK0823FSE<br>(For end users) |                   |
|-------------------------------|-------------------|
| Type of Cassette              | Full VHS Cassette |
| Cleaning Time                 | 10 Seconds/Time   |
| Tape Length                   | 3.34 m            |
| Usability in a Path           | 30 Times          |



**Note:**

The tape material itself is the same in both types.

## 2.4. SELF-DIAGNOSIS RESULT DISPLAY

The "SELF-DIAGNOSIS RESULT DISPLAY & MEMORY" function is built in this VTR.

It means that when the VCR detects undesirable condition, it can be displayed a "Error code (Two numbers from the right)" with Service Mode 2.

Since the "Error code" is stored in the EEPROM, it can be displayed although after disconnected the AC leads. It can be displayed with Service Mode 2.

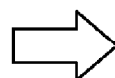
(If a second error had been detected, only the most recent error is displayed. )

For more details, refer to the Service Manual for Z-Mechanism Chassis Order number VRD9802005C2.

### Displaying an Example



[Normal Indication]



[Error Code "01"]  
(Service Mode 2)

| INDICATION | CAUSE                                                                                                  | REMEDY/CHECK                                                                                                      |
|------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 01         | After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading. | Check the cylinder motor drive circuit.                                                                           |
| 02         | Cassette tape is not wound up during the tape unloading except EJECT mode.                             | Check the capstan motor drive circuit.                                                                            |
| 03         | Mechanism locks during mode transition except EJECT mode.                                              | 1. Check the loading motor drive circuit.<br>2. Check the mechanism phase alignment.<br>3. Check the mode switch. |
| 04         | Mechanism locks during tape unloading.                                                                 | 1. Check the loading motor drive circuit.<br>2. Check the mechanism phase alignment.                              |
| 06         | Mechanism locks after tape unloading in EJECT mode.                                                    | 1. Check the loading motor drive circuit.<br>2. Check the mechanism phase alignment for cassette.                 |
| 07         | During recording mode, recording signal is less than the normal condition.                             | Protection of the over-current flowing transistor which produces the power for recording mode.                    |
| 08         | Recording circuit works except recording mode.                                                         | Check the recording circuit.                                                                                      |
| 16         | Cylinder lock detection.                                                                               | Check the cylinder unit and the cylinder drive circuit.                                                           |
| 17         | Supply reel mechanism lock detection                                                                   | Check the supply reel mechanism and supply reel circuit.                                                          |
| 18         | Take-up reel mechanism lock detection                                                                  | Check the Take-up reel mechanism and Take-up reel circuit.                                                        |
| 2*         | PG shifter automatic adjustment error.                                                                 | Check the servo/system control circuit and cylinder unit.                                                         |

Fig. T1 Self-Test indication Display

## 2.5. CAUTION FOR AC MAINS LEAD (NV-FJ630B/BL)

# 3. ADJUSTMENT PROCEDURES

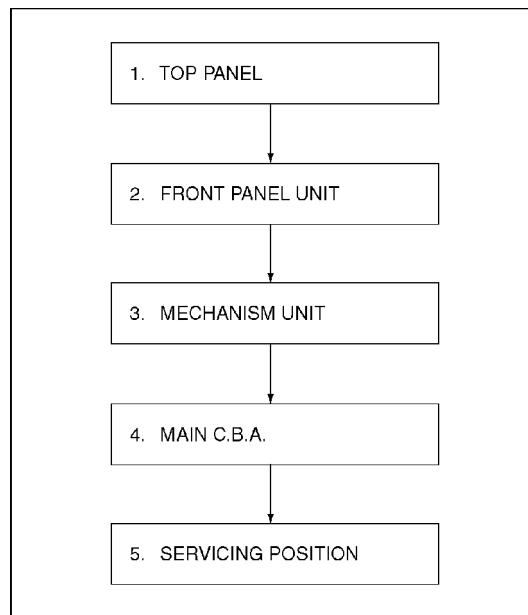
## 3.1. DISASSEMBLY METHOD

### 3.1.1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.

When reassembling, perform the steps in the reverse order.

Fig. D1

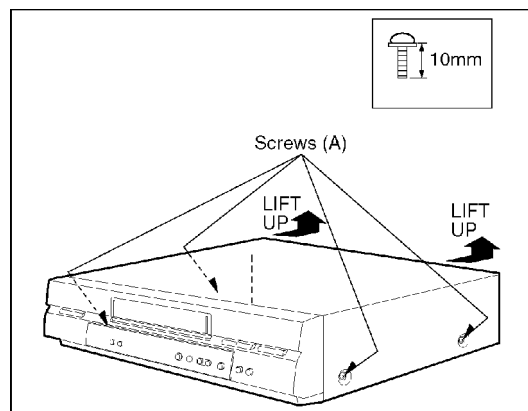


### 3.1.2. DETAIL OF DISASSEMBLY METHOD

#### 1. REMOVAL OF THE TOP PANEL

|        |              |
|--------|--------------|
| Remove | 4 Screws (A) |
|--------|--------------|

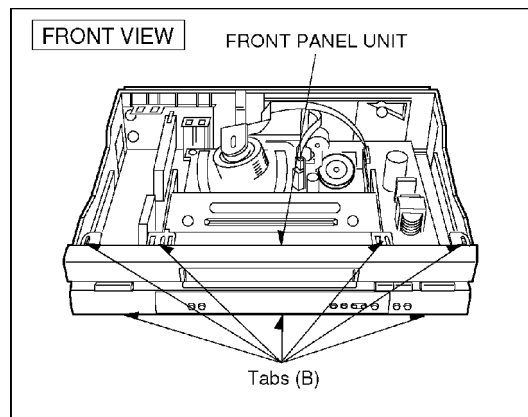
Fig.D2



#### 2. REMOVAL OF THE FRONT PANEL UNIT

|        |            |
|--------|------------|
| Unlock | 7 Tabs (B) |
|--------|------------|

Fig. D3

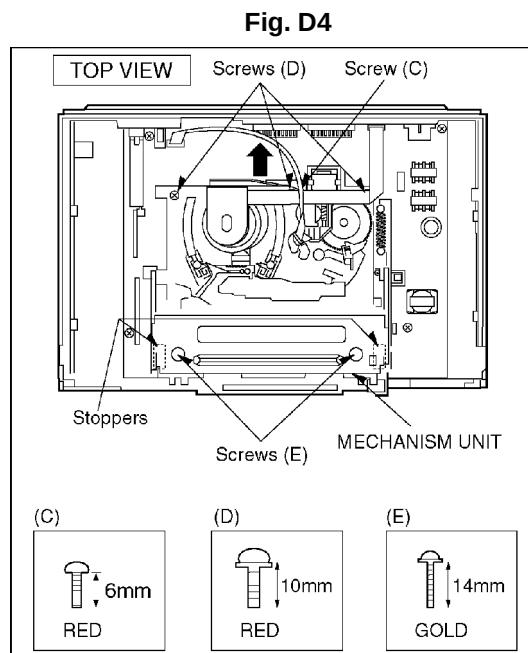


### 3. REMOVAL OF THE MECHANISM UNIT

|        |              |
|--------|--------------|
| Remove | Screw (C)    |
| Remove | 3 Screws (D) |
| Remove | 2 screw (E)  |

Note:

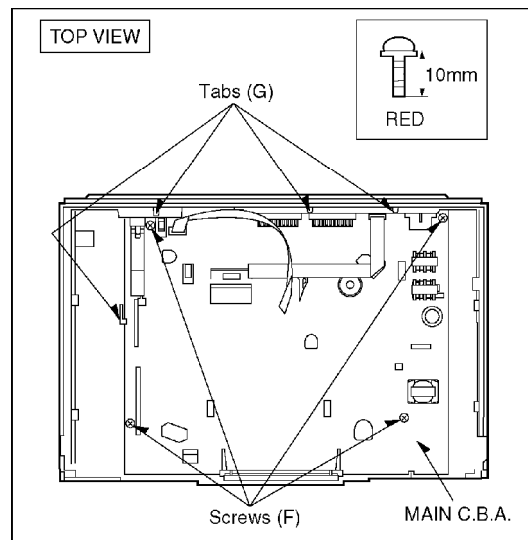
1. Keep pressing 2 stoppers on Cassette Holder Plate and Press Cassette Holder Plate to the rear.
2. Remove the Mechanism Unit after bend the Cylinder Shield in the direction of the arrow.



### 4. REMOVAL OF THE MAIN C.B.A.

|        |              |
|--------|--------------|
| Remove | 4 screws (F) |
| Unlock | 4 Tabs (G)   |

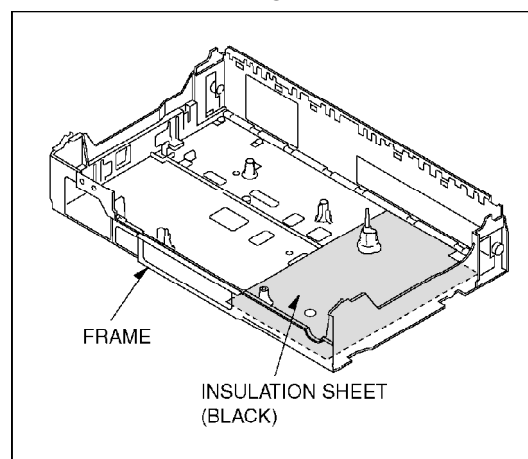
**Fig. D5**



**NOTE:**

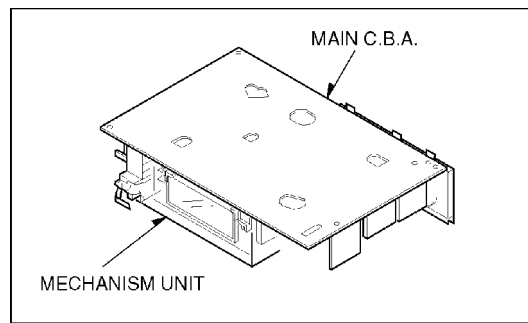
Before mounting the MAIN C.B.A. onto the frame, be sure to confirm that the insulation sheet is mounted on the frame as shown in **Fig. D6**.

**Fig. D6**



## 5. SERVICING POSITION

**Fig. D7**



## **3.2. MECHANICAL ADJUSTMENT PROCEDURES**

Refer to the Service Manual for Z-Mechanism Chassis. / (Order No. VRD9802005C2)

## **3.3. ELECTRICAL ADJUSTMENT PROCEDURES**

### **3.3.1. TEST EQUIPMENT**

The following equipments are required for Electrical Adjustments.

#### **1. Dual-Trace Oscilloscope**

- Voltage Range: 0.005-5V/div
- Frequency Range: DC-35MHz
- Probes: 10:1 / 1:1

#### **2. Frequency Counter**

- Frequency Range: 0-10MHz
- Probes: 1:1

#### **3. Universal Counter**

#### **4. Digital Volt Meter (D.V.M.)**

#### **5. Video Sweep Generator**

#### **6. Sinewave Generator**

#### **7. Video Pattern Generator**

#### **8. Monitor TV**

#### **9. DC Power Supply**

#### **10. VHS Blank Tape**

#### **11. VHS Alignment Tape**

- Parts No.: VFJ8125H3F(PAL)

### **3.3.2. VCR SETTING**

When no indication in the procedure, set each selector as follows.

## 1. TAPE SPEED: SP

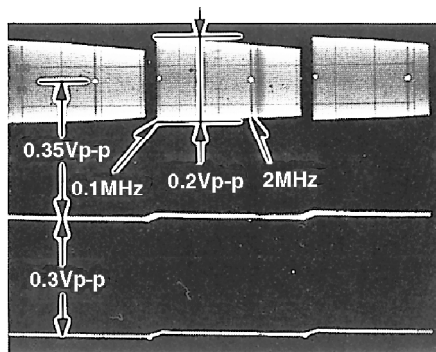
## 2. CHANNEL: AV1/AV2

(Set to signal input terminal number)

### 3.3.3. ADJUSTMENTS

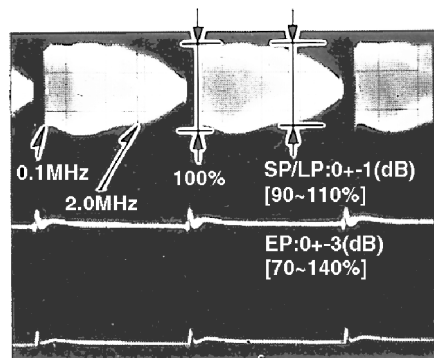
| ITEM                                | TP        | ADJ. | MODE                         | INPUT                    | TAPE                 | M. EQ.                                 | SPEC.                                                                                       | REMARKS                                                                            |
|-------------------------------------|-----------|------|------------------------------|--------------------------|----------------------|----------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| PG SHIFTER ADJUSTMENT               | ---       | ---  | PLAYBACK                     | ---                      | ALIGNMENT TAPE (PAL) | ---                                    | ---                                                                                         | Refer to procedure of PG SHIFTER ADJUSTMENT as shown in Fig.E3.                    |
| AI FUNCTION ADJUSTMENT              | ---       | ---  | PLAYBACK (SELF-REC)          | PAL COLOUR BAR           | BLANK TAPE           | ---                                    | ---                                                                                         | Refer to the procedure of AI FUNCTION ADJUSTMENT as shown in Fig.E4.               |
| VIDEO FREQUENCY RESPONSE ADJUSTMENT | VIDEO OUT | ---  | SP/LP/EP PLAYBACK (SELF-REC) | VIDEO SWEEP (See Fig.E1) | BLANK TAPE           | OSCILLOSCOPE/ VIDEO SWEEP GENERATOR OR | SP: 0+-1 (dB) (90~110%)<br>LP: 0+-1 (dB) (90~110%)<br>EP: 0+-3 (dB) (70~140%) (See Fig. E2) | Refer to the procedure of VIDEO FREQUENCY RESPONSE ADJUSTMENT as shown in Fig. E5. |

Fig.E1



CONDITION: BURST SIGNAL OFF /  
75 ohm TERMINATED

Fig.E2



### 3.3.4. PG SHIFTER ADJUSTMENT / (AUTOMATIC)

| PROCEDURES                                                                                                                                                                                                                                                             | FIP DISPLAY                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Press the FF and EJECT Keys simultaneously for 3 seconds.                                                                                                                                                                                                              |  |
| Press the FF and EJECT Keys simultaneously twice.                                                                                                                                                                                                                      |  |
| Press the EJECT key for 3 seconds.                                                                                                                                                                                                                                     |  |
| Press the CH UP key once.                                                                                                                                                                                                                                              |  |
| Insert the Alignment cassette tape. (PAL:VFJ8125H3F)                                                                                                                                                                                                                   |  |
| <p>When the sequence of the automatic adjustment has been terminated, the following action has been made.</p> <p>*SUCCEED: The cassette tape is ejected.</p> <p>*ERROR : The "F2" is displayed on the FIP.<br/>(Check the Servo/Syscon circuit and Cylinder unit.)</p> |                                                                                   |
| Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication.                                                                                                                                          |                                                                                   |

Fig. E3

### 3.3.5. AI FUNCTION ADJUSTMENT (AUTOMATIC)

| PROCEDURES                                                                                                                    | FIP DISPLAY                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Press the FF and EJECT Keys simultaneously for 3 seconds.                                                                     |  |
| Press the FF and EJECT Keys simultaneously twice.                                                                             |  |
| Press the EJECT key for 3 seconds.                                                                                            |  |
| Press the CH UP key in 3 times.                                                                                               |  |
| Insert the blank cassette tape.<br>(The adjustment is automatically started.)                                                 |  |
| When the sequence of the automatical adjustment has been terminated successfully, the VCR goes to STOP mode.                  |                                                                                   |
| Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication. |                                                                                   |

Fig. E4

### 3.3.6. VIDEO FREQUENCY RESPONSE ADJUSTMENT

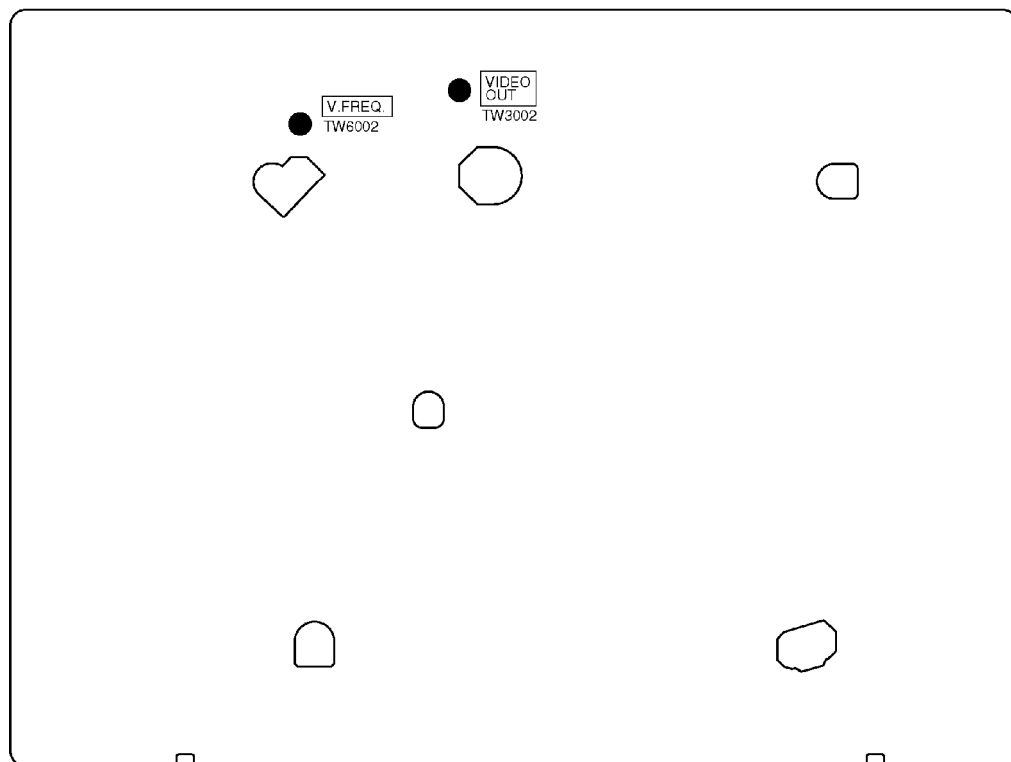
| PROCEDURES                                                                             | FIP DISPLAY                                                                         |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Input the Video sweep signal.<br>(See Fig.E1)                                          |                                                                                     |
| Press the FF and EJECT Keys simultaneously for 3 seconds.                              |  |
| Press the FF and EJECT Keys simultaneously twice.                                      |  |
| Press the EJECT key for 3 seconds.                                                     |  |
| Press the CH UP and/or CH DOWN key until "11" is displayed on FIP.                     |  |
| Insert the Self-recorded tape and playback it. (SP/LP/EP mode)                         |  |
| Connect the Oscilloscope to:<br>*CH1....Video Out (TW3002).<br>*CH2....V.FREQ.(TW6002) |                                                                                     |

| PROCEDURES                                                                                                                    | FIP DISPLAY |
|-------------------------------------------------------------------------------------------------------------------------------|-------------|
| Press the "4" key on the remote controller.<br>(Confirm that TW6002 becomes high(5V)).                                        |             |
| Adjust the Frequency response by pressing the "2"(increase) and/or "8"(decrease) key on the Remote Controller. (See Fig.E2)   |             |
| Store the Adjusted value by pressing the "5" key on the Remote Controller.                                                    |             |
| Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication. |             |

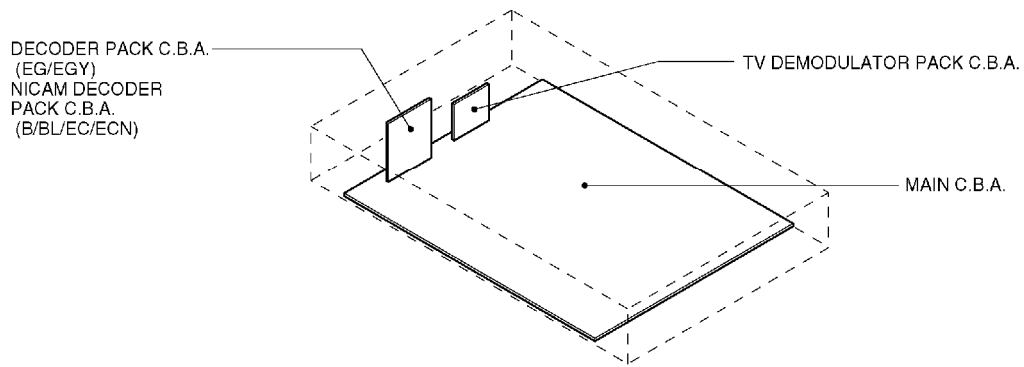
Fig. E5

### 3.3.7. LOCATION OF TEST POINTS & CONTROLS

MAIN C.B.A.



### 3.3.8. CIRCUIT BOARD LAYOUT



## 4. ABBREVIATIONS

## 5. INPUT/OUTPUT CHART

### 5.1. INPUT/OUTPUT CHART FOR IC6001

Fig. MP1

Fig. MP2

Fig. MP3

Fig. MP4

### 5.2. TRUTH TABLE (EG/EGY/EC/ECN MODEL)

### 5.3. TRUTH TABLE (B/BL MODEL)

## 6. WAVEFORM TABLE & VOLTAGE CHART

### 6.1. WAVEFORM TABLE

### 6.2. VOLTAGE CHART

## 7. BLOCK DIAGRAMS

### 7.1. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

### 7.2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

### 7.3. AUDIO BLOCK DIAGRAM

## 8. SCHEMATIC DIAGRAMS

### 8.1. POWER TRANSFORMER SECTION IN MAIN SCHEMATIC DIAGRAM

### 8.2. POWER SUPPLY/ RF SECTION IN MAIN SCHEMATIC DIAGRAM

### 8.3. TIMER SECTION IN MAIN SCHEMATIC DIAGRAM

#### **8.4. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM**

#### **8.5. LUMINANCE & CHROMINANCE/ AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM**

#### **8.6. Hi-Fi AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM**

#### **8.7. INPUT/ OUTPUT SECTION IN MAIN SCHEMATIC DIAGRAM**

#### **8.8. TV DEMODULATOR PACK SCHEMATIC DIAGRAM**

#### **8.9. DECODER PACK SCHEMATIC DIAGRAM (EG/EGY)**

#### **8.10. NICAM DECODER PACK SCHEMATIC DIAGRAM (B/BL/EC/ECN)**

#### **8.11. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM**

#### **8.12. CAPSTAN UNIT SCHEMATIC DIAGRAM**

### **9. CIRCUIT BOARD ASSEMBLIES**

#### **9.1. DECODER PACK C.B.A. (EG/EGY)**

#### **9.2. NICAM DECODER PACK C.B.A. (B/BL/EC/ECN)**

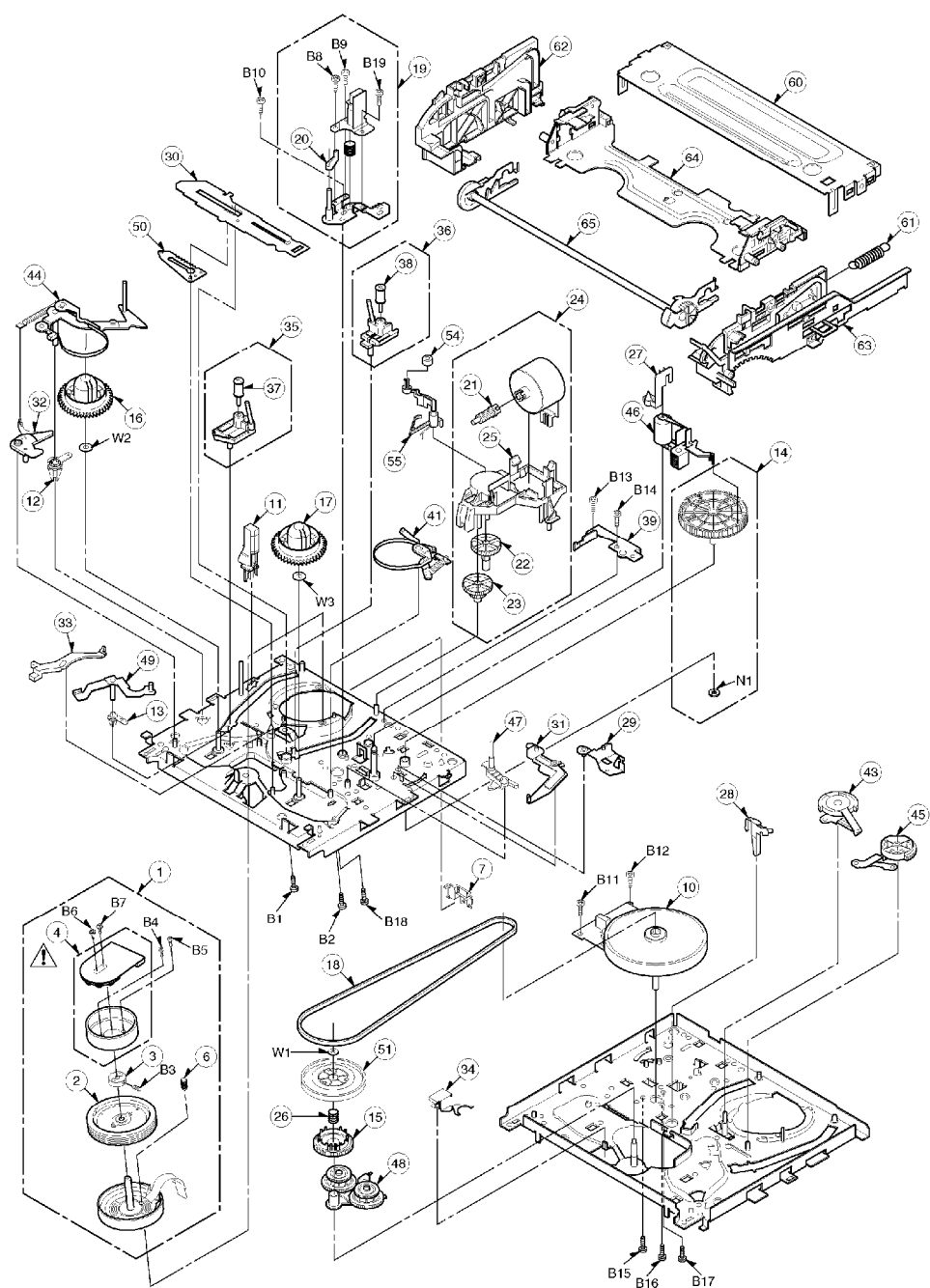
#### **9.3. MAIN C.B.A.**

#### **9.4. CYLINDER STATOR UNIT**

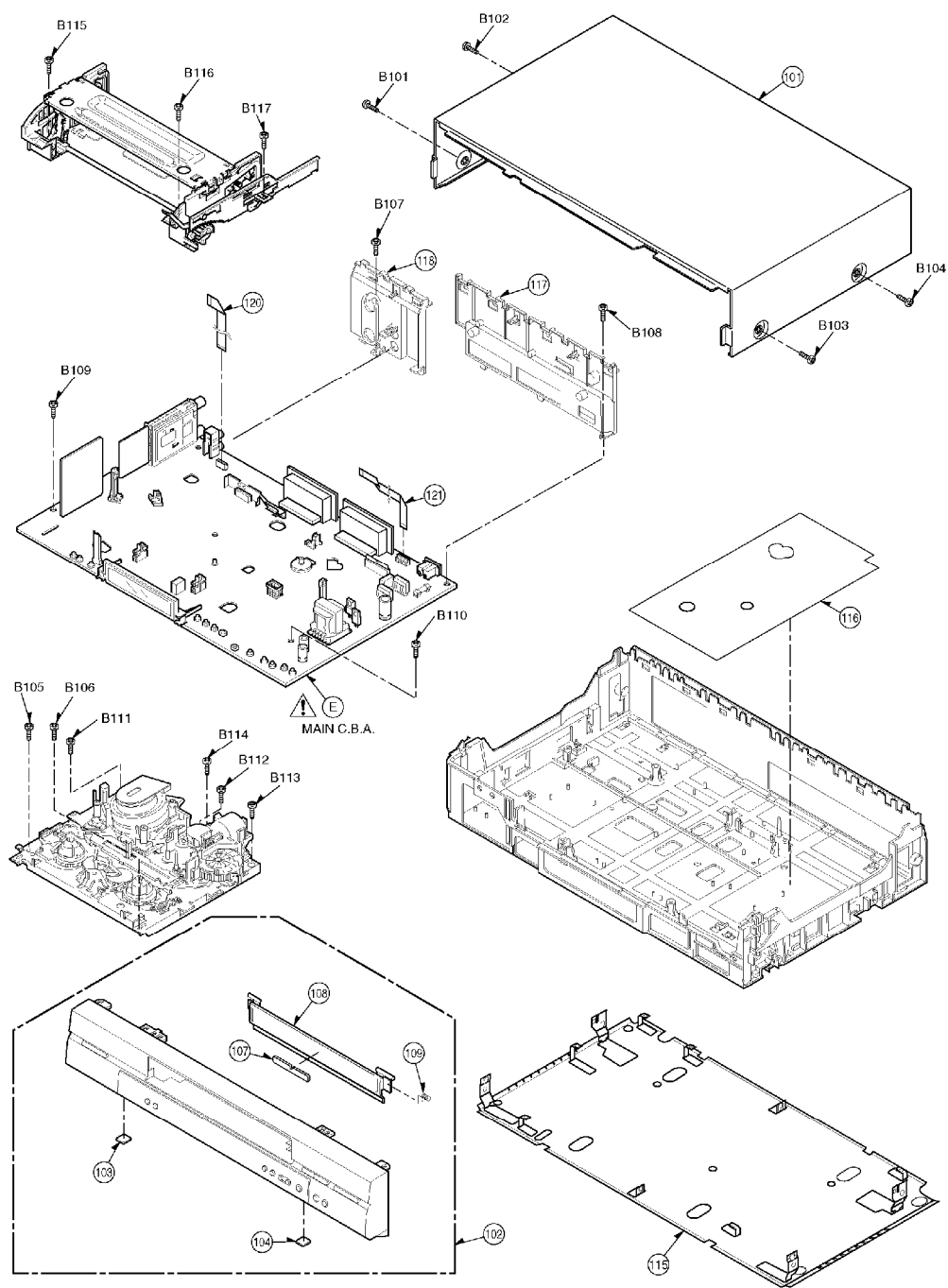
#### **9.5. TV DEMODULATOR PACK C.B.A.**

### **10. EXPLODED VIEWS**

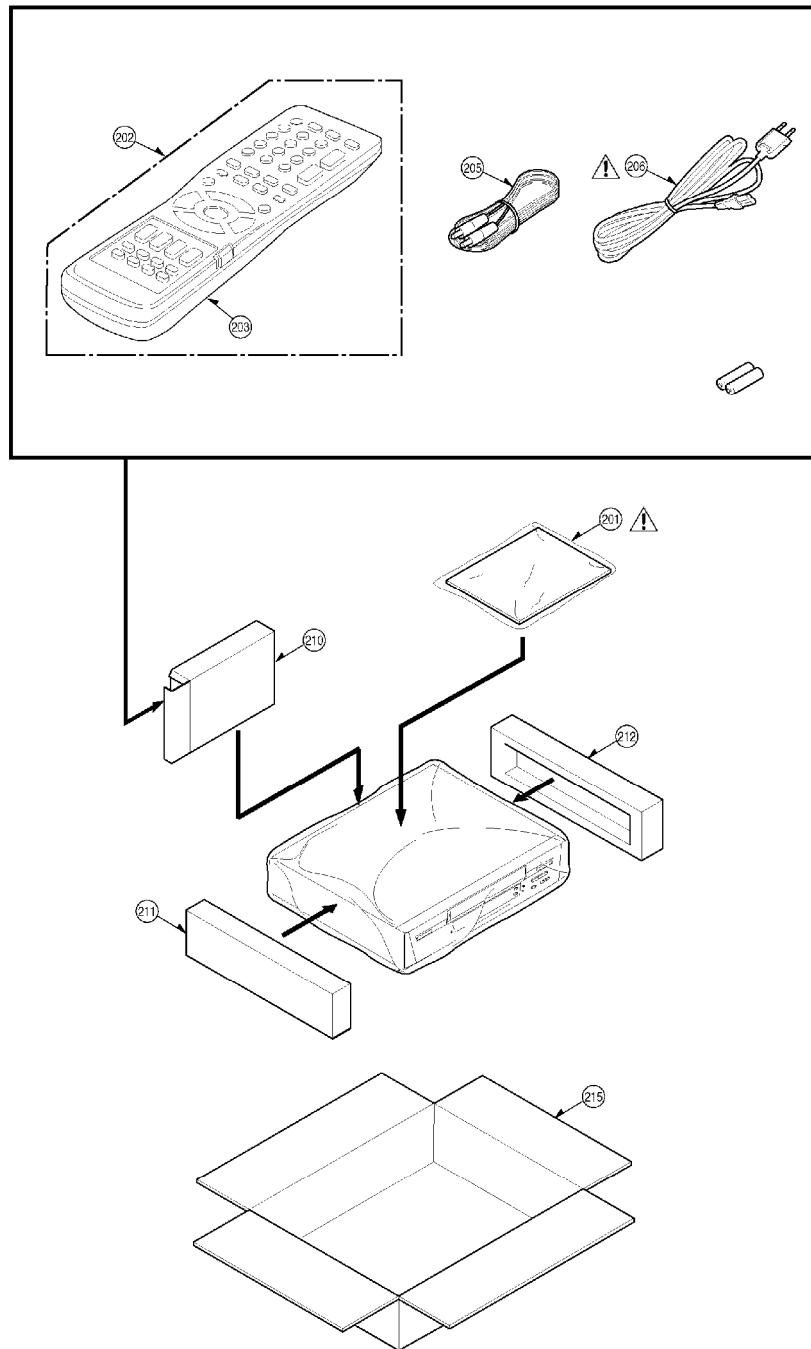
#### **10.1. CHASSIS PARTS SECTION**



## 10.2. CASING PARTS SECTION



### 10.3. PACKING PARTS SECTION



## 11. REPLACEMENT PARTS LIST

### 11.1. CHASSIS PARTS SECTION PARTS LIST

Note: 1. \*Be sure to make your orders of replacement parts according to this list.  
 2. IMPORTANT SAFETY NOTICE  
 Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.  
 3. \* [MAVD] \* in the Remarks column shows that the parts is/are supplied from MAVD.

| Ref. No.  | Part No.     | Part Name & Description  | Remarks                                                                           |
|-----------|--------------|--------------------------|-----------------------------------------------------------------------------------|
| <u>1</u>  | VEG1598      | CYLINDER UNIT            | [MAVD]                                                                            |
| <u>2</u>  | VXP2170      | UPPER CYLINDER UNIT      | [MAVD]                                                                            |
| <u>3</u>  | VDB1256      | CYLINDER RETAINER        |                                                                                   |
| <u>4</u>  | VEM0715      | CYLINDER MOTOR UNIT      |  |
| <u>6</u>  | VXS0135      | EARTH BRUSH UNIT         |                                                                                   |
| <u>7</u>  | VMD3795      | FLAT CABLE HOLDER        |                                                                                   |
| <u>10</u> | VEK9069      | CAPSTAN UNIT             |                                                                                   |
| <u>11</u> | L1AZ00000004 | FE HEAD                  | L1AZ00000004                                                                      |
| <u>12</u> | VDB1431      | TENSION ARM BOSS         |                                                                                   |
| <u>13</u> | VDB1460      | SUPPLY BRAKE ARM BOSS    |                                                                                   |
| <u>14</u> | VDG1220KIT   | MAIN CAM GEAR            |                                                                                   |
| <u>15</u> | VDG1221      | CONVERSION GEAR          |                                                                                   |
| <u>16</u> | VDR0350      | REEL TABLE               |                                                                                   |
| <u>17</u> | VDR0350      | REEL TABLE               |                                                                                   |
| <u>18</u> | VDV0382      | CAPSTAN BELT             |                                                                                   |
| <u>19</u> | VED0412      | A/C HEAD UNIT            |                                                                                   |
| <u>20</u> | VMX2656      | P4 CAP                   |                                                                                   |
| <u>21</u> | VDG1217      | WORM GEAR                |                                                                                   |
| <u>22</u> | VDG1218      | WORM WHEEL GEAR          |                                                                                   |
| <u>23</u> | VDG1219      | CENTRE GEAR              |                                                                                   |
| <u>24</u> | VEM0604      | LOADING MOTOR UNIT       |                                                                                   |
| <u>25</u> | VMD2619      | MOTOR BRACKET            |                                                                                   |
| <u>26</u> | VMB3045      | CONVERSION GEAR SPRING   |                                                                                   |
| <u>27</u> | VMD2620      | OPENER PIECE             |                                                                                   |
| <u>28</u> | VMD2738      | LED PRISM                |                                                                                   |
| <u>29</u> | VML3165      | DRIVE RACK ARM           |                                                                                   |
| <u>30</u> | VML3166      | MAIN LEVER               |                                                                                   |
| <u>31</u> | VML3167      | DRIVE MAIN LEVER ARM     |                                                                                   |
| <u>32</u> | VML3172      | SUPPLY SPRING ARM        |                                                                                   |
| <u>33</u> | VML3176      | CONVERSION LEVER A       |                                                                                   |
| <u>34</u> | VML3177      | CONVERSION LEVER B       |                                                                                   |
| <u>35</u> | VXA6040      | INCLINED BASE (S) UNIT   |                                                                                   |
| <u>36</u> | VXA5854      | INCLINED BASE (T) UNIT   |                                                                                   |
| <u>37</u> | VXP1891      | ROLLER POST              |                                                                                   |
| <u>38</u> | VXP1891      | ROLLER POST              |                                                                                   |
| <u>39</u> | VMA9672      | SUPPORT ANGLE            |                                                                                   |
| <u>41</u> | VXL2667      | TAKE UP BRAKE ARM UNIT   |                                                                                   |
| <u>43</u> | VXL2670      | TAKE UP LOADING ARM UNIT |                                                                                   |
| <u>44</u> | VXL2793      | TENSION ARM UNIT         |                                                                                   |
| <u>45</u> | VXL2672      | SUPPLY LOADING ARM UNIT  |                                                                                   |
| <u>46</u> | VXL2785      | PINCH ARM UNIT           |                                                                                   |
| <u>47</u> | VXL2996      | P5 ARM UNIT              |                                                                                   |
| <u>48</u> | VXL2792      | IDLER ARM UNIT           |                                                                                   |
| <u>49</u> | VXL2733      | SUPPLY BRAKE ARM UNIT    |                                                                                   |
| <u>50</u> | VXL2747      | LOADING RACK UNIT        |                                                                                   |
| <u>51</u> | VXP2035      | CENTRE CLUTCH UNIT       |                                                                                   |
| <u>54</u> | VDP1668-K    | CLEANER ROLLER           |                                                                                   |
| <u>55</u> | VML3164      | CLEANER ARM              |                                                                                   |
| <u>60</u> | VMA9516      | TOP PLATE                |                                                                                   |
| <u>61</u> | VMB3047      | CONNECTION SPRING        |                                                                                   |
| <u>62</u> | VMD3379      | SIDE PLATE (L)           |                                                                                   |
| <u>63</u> | VXA6540      | SIDE PLATE (R) UNIT      |                                                                                   |
| <u>64</u> | VXA5746      | CASSETTE HOLDER UNIT     |                                                                                   |
| <u>65</u> | VXP1730      | MAIN SHAFT UNIT          |                                                                                   |

| Ref. No.   | Part No. | Part Name & Description | Remarks |
|------------|----------|-------------------------|---------|
| <b>B1</b>  | VHD1118  | SCREW                   |         |
| <b>B2</b>  | VHD1118  | SCREW                   |         |
| <b>B3</b>  | VHD0842  | SCREW                   |         |
| <b>B4</b>  | VHD0843  | SCREW                   |         |
| <b>B5</b>  | VHD0843  | SCREW                   |         |
| <b>B6</b>  | VHD0844  | SCREW                   |         |
| <b>B7</b>  | VHD0844  | SCREW                   |         |
| <b>B8</b>  | VHD1066  | SCREW                   |         |
| <b>B9</b>  | VHD1066  | SCREW                   |         |
| <b>B10</b> | VHD1044  | SCREW                   |         |
| <b>B11</b> | VHD1060  | SCREW                   |         |
| <b>B12</b> | VHD1071  | SCREW                   |         |
| <b>B13</b> | XTS26+6F | SCREW                   |         |
| <b>B14</b> | XTN26+6F | SCREW                   |         |
| <b>B15</b> | XTN26+7J | SCREW                   |         |
| <b>B16</b> | XTN26+7J | SCREW                   |         |
| <b>B17</b> | XTN26+7J | SCREW                   |         |
| <b>B18</b> | VHD1095  | SCREW                   |         |
| <b>B19</b> | VHD1185  | SCREW                   |         |
| <b>N1</b>  | VHN0311  | PUSH NUT                |         |
| <b>W1</b>  | VMX2208  | WASHER                  |         |
| <b>W2</b>  | VMX3022  | WASHER                  |         |
| <b>W3</b>  | VMX3022  | WASHER                  |         |

## 11.2. CASING PARTS SECTION PARTS LIST

Note: 1. \*Be sure to make your orders of replacement parts according to this list.  
2. IMPORTANT! SAFETY NOTICE  
Components identified with the mark  $\Delta$  have the special characteristics for safety. When replacing any of these components, use only the same type.  
3. \* [MAVD] \* in the Remarks column shows that the parts is/are supplied from MAVD.

| Ref. No.             | Part No.   | Part Name & Description | Remarks                                                 |
|----------------------|------------|-------------------------|---------------------------------------------------------|
| <a href="#">101</a>  | VGM1835    | TOP PANEL               | [MAVD]NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK |
| 101                  | VGM1834    | TOP PANEL               | [MAVD]NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS |
| <a href="#">102</a>  | VYP8377    | FRONT PANEL UNIT        | [MAVD]NV-FJ631EG-K/EGYK                                 |
| 102                  | VYP8378    | FRONT PANEL UNIT        | [MAVD]NV-FJ631EC-S                                      |
| 102                  | VYP8367    | FRONT PANEL UNIT        | [MAVD]NV-FJ630EG-K/EGYK                                 |
| 102                  | VYP8366    | FRONT PANEL UNIT        | [MAVD]NV-FJ630EG-S/EGYS                                 |
| 102                  | VYP8371    | FRONT PANEL UNIT        | [MAVD]NV-FJ630B-K                                       |
| 102                  | VYP8370    | FRONT PANEL UNIT        | [MAVD]NV-FJ630B-S/BL-S                                  |
| 102                  | VYP8369    | FRONT PANEL UNIT        | [MAVD]NV-FJ630EC-K/ECNK                                 |
| 102                  | VYP8368    | FRONT PANEL UNIT        | [MAVD]NV-FJ630EC-S/ECNS                                 |
| <a href="#">103</a>  | RKA0072-K  | FOOT                    |                                                         |
| <a href="#">104</a>  | RKA0072-K  | FOOT                    |                                                         |
| <a href="#">107</a>  | VGB0554    | SUPER DRIVE BADGE       |                                                         |
| <a href="#">108</a>  | VKF3486    | BLINDER PANEL           | [MAVD]NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK |
| 108                  | VKF3485    | BLINDER PANEL           | [MAVD]NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS |
| <a href="#">109</a>  | VMB2521    | BLINDER SPRING          |                                                         |
| <a href="#">115</a>  | VKU0575    | BOTTOM PLATE            |                                                         |
| <a href="#">116</a>  | VMZ3099    | VO SHEET                |                                                         |
| <a href="#">117</a>  | VJH1175    | AV JACK PLATE           |                                                         |
| <a href="#">118</a>  | VJH1173    | ANT JACK PLATE          |                                                         |
| <a href="#">120</a>  | VWJ1461    | FLAT CARD CABLE (6P)    | [MAVD]P4003-A/C HEAD                                    |
| <a href="#">121</a>  | VWJ1282    | FLAT CARD CABLE (9P)    | [MAVD]P2502-P2901                                       |
|                      |            |                         |                                                         |
| <a href="#">B101</a> | XTW3+10TFZ | SCREW                   | NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK       |
| B101                 | XTW3+10TFC | SCREW                   | NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS       |
| <a href="#">B102</a> | XTW3+10TFZ | SCREW                   | NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK       |
| B102                 | XTW3+10TFC | SCREW                   | NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS       |
| <a href="#">B103</a> | XTW3+10TFZ | SCREW                   | NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK       |
| B103                 | XTW3+10TFC | SCREW                   | NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS       |
| <a href="#">B104</a> | XTW3+10TFZ | SCREW                   | NV-FJ631EG-K/EGYK,NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK       |
| B104                 | XTW3+10TFC | SCREW                   | NV-FJ631EC-S,NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS       |
| <a href="#">B105</a> | VHD0168    | SCREW                   |                                                         |
| <a href="#">B106</a> | VHD0168    | SCREW                   |                                                         |
| <a href="#">B107</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B108</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B109</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B110</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B111</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B112</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B113</a> | VHD1092    | SCREW                   |                                                         |
| <a href="#">B114</a> | XTV26+6JFR | SCREW                   | [MAVD]                                                  |
| <a href="#">B115</a> | XTV26+8FR  | SCREW                   |                                                         |
| <a href="#">B116</a> | XTV26+8FR  | SCREW                   |                                                         |
| <a href="#">B117</a> | XTV26+8FR  | SCREW                   |                                                         |

## 11.3. PACKING PARTS SECTION PARTS LIST

Note: 1. \*Be sure to make your orders of replacement parts according to this list.  
2. IMPORTANT SAFETY NOTICE  
Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.  
3. "[MAVD]" in the Remarks column shows that the parts is/are supplied from MAVD.

| Ref. No.            | Part No.     | Part Name & Description                                                   | Remarks                                                                                                                                                            |
|---------------------|--------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">201</a> | VQT9525      | OPERATING INSTRUCTIONS(GERMAN)                                            |  [MAVD]NV-FJ631EG-K,NV-FJ630EG-K/EG-S                                           |
| 201                 | VQT9840      | OPERATING INSTRUCTIONS(ENGLISH/<br>GERMAN/FRENCH/ITALIAN/DUTCH/<br>GREEK) |  [MAVD]NV-FJ631EGYK,NV-FJ630EGYK/EGYS/ECNK/ECNS                                 |
| 201                 | VQT9546      | OPERATING INSTRUCTIONS(ENGLISH)                                           |  [MAVD]NV-FJ630B-K/B-S/BL-S                                                     |
| 201                 | VQT9016      | OPERATING INSTRUCTIONS(FRENCH)                                            |  [MAVD]NV-FJ630B-K/B-S                                                          |
| 201                 | VQT9019      | OPERATING INSTRUCTIONS(DUTCH)                                             |  [MAVD]NV-FJ630B-K/B-S                                                          |
| 201                 | VQT9843      | OPERATING INSTRUCTIONS(SPANISH/<br>PORTUGUESE)                            |  [MAVD]NV-FJ631EC-S,NV-FJ630EC-K/EC-S                                           |
| 201                 | VQT9844      | OPERATING INSTRUCTIONS(SWEDISH/<br>DANISH/FINNISH)                        |  [MAVD]NV-FJ630ECNK/ECNS                                                        |
| <a href="#">202</a> | N2QAKB000022 | REMOTE CONTROLLER                                                         | [MAVD]N2QAKB000022                                                                                                                                                 |
| <a href="#">203</a> | R0186-720010 | BATTERY COVER                                                             | [MAVD]N2QAKB000022                                                                                                                                                 |
| <a href="#">205</a> | VJA0728-A    | DIN RF CABLE                                                              | [MAVD]                                                                                                                                                             |
| <a href="#">206</a> | RJA0043      | AC CORD                                                                   |  [MAVD]NV-FJ631EG-K/EGYK/EC-S,NV-FJ630EG-K/EG-S/EGYK/EGYS/EC-K/EC-S/ECNK/ECNS |
| 206                 | RJA0044      | AC CORD                                                                   |  [MAVD]NV-FJ630B-K/B-S/BL-S                                                   |
| <a href="#">210</a> | VPK2246      | ACCESSORIES PACKING                                                       | [MAVD]                                                                                                                                                             |
| <a href="#">211</a> | VPN5491      | CUSHION (L)                                                               | [MAVD]                                                                                                                                                             |
| <a href="#">212</a> | VPN5492      | CUSHION (R)                                                               | [MAVD]                                                                                                                                                             |
| <a href="#">215</a> | VPG0M15      | PACKING                                                                   | [MAVD]NV-FJ630EG-K/EGYK/B-K/EC-K/ECNK,NV-FJ631EG-K/EGYK                                                                                                            |
| 215                 | VPG0M14      | PACKING                                                                   | [MAVD]NV-FJ630EG-S/EGYS/B-S/BL-S/EC-S/ECNS,NV-FJ631EC-S                                                                                                            |
|                     |              |                                                                           |                                                                                                                                                                    |
|                     |              |                                                                           |                                                                                                                                                                    |
|                     |              | SERVICE FIXTURES & TOOLS                                                  |                                                                                                                                                                    |
|                     | VFJ8125H3F   | VHS ALIGNMENT TAPE (PAL)                                                  |                                                                                                                                                                    |
|                     | VFK0335      | RETAINING RING REMOVER (3mm/<br>4mm)                                      |                                                                                                                                                                    |
|                     | VFK0329      | POST ADJUSTMENT SCREWDRIVER                                               |                                                                                                                                                                    |
|                     | VFK0326      | HEX WRENCH SET                                                            |                                                                                                                                                                    |
|                     | VFK0132      | BACK TENSION METER                                                        |                                                                                                                                                                    |
|                     | VFK27        | HEAD CLEANING STICK                                                       |                                                                                                                                                                    |
|                     | VFK1024      | MOLYTONE GREASE                                                           |                                                                                                                                                                    |
|                     | VFK0330      | FINE ADJUSTMENT GEAR DRIVER                                               |                                                                                                                                                                    |
|                     | VFK1301      | SILICONE GREASE                                                           |                                                                                                                                                                    |
|                     | VFK1298      | FLOIL GREASE                                                              |                                                                                                                                                                    |

## 11.4. ELECTRICAL PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.  
2. IMPORTANT SAFETY NOTICE: Components identified with the mark  $\Delta$  have the special characteristics for safety. When replacing any of these components, use only the same type.  
3. Unless otherwise specified.  
All resistors are in OHMS. K=1,000 OHMS. All capacitors are in MICROFARADS (uf). P=10W.  
4. The P.C. Board units marked with  $\blacksquare$  show below the main assembled parts.  
5. The marking (RTL) indicates the retention time is limited for this item.  
After the discontinuation of this assembly in production, it will no longer be available.  
6. "[MAVD]" in the Remarks column shows that the parts is/are supplied from MAVD.  
7. \*1 \*, \*2 \*, \*3 \*, \*4 \* in the Remarks column shows the models as follows.  
\*1 \*: NV-FJ630EG-S, NV-FJ630EG-K, NV-FJ630EGYS, NV-FJ630EGYK, NV-FJ631EG-K, and NV-FJ631EGYK  
\*2 \*: NV-FJ630EC-S, NV-FJ630EC-K, NV-FJ630ECNS, NV-FJ630ECNK, and NV-FJ631EC-S  
\*3 \*: NV-FJ630B-S, NV-FJ630B-K  
\*4 \*: NV-FJ630BL-S

| Ref. No.       | Part No.  | Part Name & Description   | Remarks                                                                |
|----------------|-----------|---------------------------|------------------------------------------------------------------------|
| $\blacksquare$ | VEP06E55F | MAIN C.B.A.               | (RTL)[MAVD] *1                                                         |
|                |           |                           | THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.(VEP07A16A,VEP07A23S) |
| $\blacksquare$ | VEP06E55J | MAIN C.B.A.               | (RTL)[MAVD] *2                                                         |
|                |           |                           | THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.(VEP07A18R,VEP07A23S) |
| $\blacksquare$ | VEP06E55G | MAIN C.B.A.               | (RTL)[MAVD] *3                                                         |
|                |           |                           | THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.(VEP07A18X,VEP07A23T) |
| $\blacksquare$ | VEP06E55H | MAIN C.B.A.               | (RTL)[MAVD] *4                                                         |
|                |           |                           | THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.(VEP07A18T,VEP07A23U) |
| $\blacksquare$ | VEP07A16A | DECODER PACK C.B.A.       | (RTL)[MAVD] *1                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55F).                                    |
| $\blacksquare$ | VEP07A18R | NICAM DECODER PACK C.B.A. | (RTL)[MAVD] *2                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55J).                                    |
| $\blacksquare$ | VEP07A18X | NICAM DECODER PACK C.B.A. | (RTL)[MAVD] *3                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55G).                                    |
| $\blacksquare$ | VEP07A18T | NICAM DECODER PACK C.B.A. | (RTL)[MAVD] *4                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55H).                                    |
| $\blacksquare$ | VEP07A23S | TV DEMODULATOR PACK C.B.A | (RTL)[MAVD] *1,*2                                                      |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55F/J).                                  |
| $\blacksquare$ | VEP07A23T | TV DEMODULATOR PACK C.B.A | (RTL)[MAVD] *3                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55G).                                    |
| $\blacksquare$ | VEP07A23U | TV DEMODULATOR PACK C.B.A | (RTL)[MAVD] *4                                                         |
|                |           |                           | INCLUDED IN MAIN C.B.A.(VEP06E55H).                                    |

| Ref. No. | Part No.     | Part Name & Description   | Remarks                                                                                      |
|----------|--------------|---------------------------|----------------------------------------------------------------------------------------------|
| ■        | -----        | CYLINDER STATOR C.B.A.    | INCLUDED IN CYLINDER MOTOR UNIT (VEM0715).                                                   |
| ■        | -----        | CAPSTAN DRIVE C.B.A.      | INCLUDED IN CAPSTAN UNIT (VEK9069).                                                          |
| ■        | VEP06E55F    | MAIN C.B.A.               | (RTL)[MAVD] *1                                                                               |
| ■        | VEP06E55J    | MAIN C.B.A.               | (RTL)[MAVD] *2                                                                               |
| ■        | VEP06E55G    | MAIN C.B.A.               | (RTL)[MAVD] *3                                                                               |
| ■        | VEP06E55H    | MAIN C.B.A.               | (RTL)[MAVD] *4                                                                               |
| C0701    | ECUM1C105ZFN | C.CAPACITOR CH 16V 1U     | F1J1C105A063                                                                                 |
| C0702    | ECUX1H102KBV | C.CAPACITOR CH 50V 1000P  |                                                                                              |
| C0703    | ECUM1A105KBN | C.CAPACITOR CH 10V 1U     | ECJ2YB1A105K                                                                                 |
| C0704    | ECUV1E333KBN | C.CAPACITOR CH 25V 0.033U |                                                                                              |
| C0707    | ECEA1HKS2R2  | E.CAPACITOR 50V 2.2U      |                                                                                              |
| C0708    | ECEA1HKAR47B | E.CAPACITOR 50V 0.47U     |                                                                                              |
| C0710    | ECUX1H103ZFN | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z                                                                                 |
| C0711    | ECEA1CKS220  | E.CAPACITOR 16V 22U       |                                                                                              |
| C0712    | ECUX1C104ZFN | C.CAPACITOR CH 16V 0.1U   |                                                                                              |
| C0713    | ECEA0JKS331  | E.CAPACITOR 6.3V 330U     |                                                                                              |
| C0714    | ECUM1C105ZFN | C.CAPACITOR CH 16V 1U     | F1J1C105A063                                                                                 |
| C0715    | ECUX1H030CCV | C.CAPACITOR CH 50V 3P     | *1,*2,*4 ECJ1XC1H030C                                                                        |
| C0715    | ECUX1H120JCV | C.CAPACITOR CH 50V 12P    | *3                                                                                           |
| C0717    | ECUM1H330GUV | C.CAPACITOR CH 50V 33P    |                                                                                              |
| C0719    | ECUX1E104ZFN | C.CAPACITOR CH 25V 0.1U   | F1H1E104A026                                                                                 |
| C0721    | ECUX1H121JCV | C.CAPACITOR CH 50V 120P   | *1,*2 ECJ1XC1H121J                                                                           |
| C0721    | ECUX1H820JCV | C.CAPACITOR CH 50V 82P    | *3                                                                                           |
| C0721    | ECUX1H560JCV | C.CAPACITOR CH 50V 56P    | *4                                                                                           |
| C0724    | ECUX1H221KBV | C.CAPACITOR CH 50V 220P   | *1,*2,*4 ECJ1XB1H221K                                                                        |
| C0724    | ECUX1H331KBV | C.CAPACITOR CH 50V 330P   | *3                                                                                           |
| C1001    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K                                                                                 |
| C1002    | ECEA1AKS470  | E.CAPACITOR 10V 47U       |                                                                                              |
| C1003    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K                                                                                 |
| C1006    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K                                                                                 |
| C1008    | ECA1EHJ470   | E.CAPACITOR 25V 47U       | [MAVD]                                                                                       |
| C1010    | ECA1EHJ470   | E.CAPACITOR 25V 47U       | [MAVD]                                                                                       |
| C1011    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K                                                                                 |
| C1012    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |                                                                                              |
| C1025    | ECUV1H104KBN | C.CAPACITOR CH 50V 0.1U   | ECJ2YB1H104K                                                                                 |
| C1026    | ECUV1H104KBN | C.CAPACITOR CH 50V 0.1U   | ECJ2YB1H104K                                                                                 |
| C1101    | VCF2AAF683M  | X2 CAPACITORS             |  [MAVD] |
| C1102    | F1BAF1020020 | CERAMIC CAPACITOR         |  [MAVD] |
| C1106    | EEUEB2G330E  | E.CAPACITOR 400V 33U      | [MAVD]                                                                                       |
| C1107    | F1A3A271A028 | E.CAPACITOR 1KV 270U      | F1A3A271A034                                                                                 |
| C1108    | ECQB1H223JF3 | P.CAPACITOR 50V 0.022U    |                                                                                              |
| C1109    | ECQB1H473JF3 | P.CAPACITOR 50V 0.047U    |                                                                                              |
| C1110    | ECQV1H104JL3 | P.CAPACITOR 50V 0.1U      |                                                                                              |
| C1111    | ECQB1H103JZ  | P.CAPACITOR 50V 0.01U     |                                                                                              |
| C1112    | F1BAF1020020 | CERAMIC CAPACITOR         |  [MAVD] |

| Ref. No. | Part No.     | Part Name & Description   | Remarks             |
|----------|--------------|---------------------------|---------------------|
| C1201    | F1B3A332A004 | E.CAPACITOR 1KV 3300U     | [MAVD]              |
| C1202    | VCEA1HJB560B | E.CAPACITOR 50V 56U       | [MAVD] F2A1H560A101 |
| C1203    | EEUFG1E821   | E.CAPACITOR 25V 820P      | [MAVD]              |
| C1204    | EEUFG1A182   | E.CAPACITOR 10V 1800P     | [MAVD]              |
| C1205    | VCEA1HJB560B | E.CAPACITOR 50V 56U       | [MAVD] F2A1H560A101 |
| C1206    | VCEA1AJB101B | E.CAPACITOR 10V 100U      | [MAVD] F2A1A101A089 |
| C1207    | ECQV1H104JL3 | P.CAPACITOR 50V 0.1U      |                     |
| C1208    | ECA1AHJ331   | E.CAPACITOR 10V 330U      | [MAVD]              |
| C1209    | ECA1EM101    | E.CAPACITOR 25V 100U      |                     |
| C1502    | ECUX1H331JCV | C.CAPACITOR CH 50V 330P   | F1H1H3310005        |
| C2502    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K        |
| C2505    | ECUX1C563KBV | C.CAPACITOR CH 16V 0.056U | [MAVD]              |
| C2506    | ECUX1C563KBV | C.CAPACITOR CH 16V 0.056U | [MAVD]              |
| C2507    | ECUX1C563KBV | C.CAPACITOR CH 16V 0.056U | [MAVD]              |
| C2508    | ECUX1C104ZV  | C.CAPACITOR CH 16V 0.1U   |                     |
| C2509    | ECUX1C474ZV  | C.CAPACITOR CH 16V 0.47U  | ECJ1VF1C474Z        |
| C2510    | ECUX1H330JCV | C.CAPACITOR CH 50V 33P    | ECJ1XC1H330J        |
| C2511    | ECEA0JKN220B | E.CAPACITOR 6.3V 22U      |                     |
| C2512    | ECEA1EKS4R7  | E.CAPACITOR 25V 4.7U      |                     |
| C2513    | ECUX1H392KBV | C.CAPACITOR CH 50V 3900P  |                     |
| C2515    | ECEA1VKN4R7B | E.CAPACITOR 35V 4.7U      |                     |
| C2516    | ECEA1VKN4R7B | E.CAPACITOR 35V 4.7U      |                     |
| C2517    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                     |
| C2518    | ECUV1H473ZV  | C.CAPACITOR CH 50V 0.047U | ECJ1VF1H473Z        |
| C2519    | ECEA1EKA470B | E.CAPACITOR 25V 47U       |                     |
| C2520    | ECUV1E683KBN | C.CAPACITOR CH 25V 0.068U | ECJ2VB1E683K        |
| C2521    | ECUV1C154KBN | C.CAPACITOR CH 16V 0.15U  |                     |
| C2522    | ECUV1C154KBN | C.CAPACITOR CH 16V 0.15U  |                     |
| C2523    | ECUV1C154KBN | C.CAPACITOR CH 16V 0.15U  |                     |
| C2524    | ECEA1VKN4R7B | E.CAPACITOR 35V 4.7U      |                     |
| C3002    | ECUX1H102KBV | C.CAPACITOR CH 50V 1000P  |                     |
| C3003    | ECUX1H102KBV | C.CAPACITOR CH 50V 1000P  |                     |
| C3004    | ECEA1HKS010  | E.CAPACITOR 50V 1U        |                     |
| C3008    | ECUX1H680JCV | C.CAPACITOR CH 50V 68P    |                     |
| C3009    | ECUX1H070DCV | C.CAPACITOR CH 50V 7P     |                     |
| C3012    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K        |
| C3013    | ECUX1H103ZV  | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z        |
| C3015    | ECUX1H103ZV  | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z        |
| C3016    | ECUX1H103ZV  | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z        |
| C3017    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |                     |
| C3018    | ECUX1C104ZV  | C.CAPACITOR CH 16V 0.1U   |                     |
| C3019    | ECUX1C104ZV  | C.CAPACITOR CH 16V 0.1U   |                     |
| C3020    | ECEA1HKS010  | E.CAPACITOR 50V 1U        |                     |
| C3021    | ECUX1H103KBV | C.CAPACITOR CH 50V 0.01U  |                     |
| C3022    | ECUX1C104ZV  | C.CAPACITOR CH 16V 0.1U   |                     |
| C3023    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                     |
| C3024    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K        |
| C3025    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | ECJ1XB1H222K        |
| C3028    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                     |
| C3029    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                     |
| C3030    | ECUX1C104ZV  | C.CAPACITOR CH 16V 0.1U   |                     |
| C3031    | ECUX1H103ZV  | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z        |
| C3032    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | ECJ1XB1H222K        |
| C3033    | ECEA1HKAR47B | E.CAPACITOR 50V 0.47U     |                     |

| Ref. No. | Part No.     | Part Name & Description   | Remarks      |
|----------|--------------|---------------------------|--------------|
| C3035    | ECEA1EKN4R7B | E.CAPACITOR 25V 4.7U      |              |
| C3036    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C3037    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |              |
| C3038    | ECEA1EKS4R7  | E.CAPACITOR 25V 4.7U      |              |
| C3039    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C3040    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |              |
| C3041    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C3042    | ECUX1E223KBV | C.CAPACITOR CH 25V 0.022U | F1H1E223A024 |
| C3043    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C3045    | ECUX1H560JCV | C.CAPACITOR CH 50V 56P    |              |
| C3046    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C3047    | ECYX1H821JCV | C.CAPACITOR CH 50V 820P   |              |
| C3048    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J |
| C3050    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C3051    | ECUX1H681JCV | C.CAPACITOR CH 50V 680P   |              |
| C3052    | ECUX1H820JCV | C.CAPACITOR CH 50V 82P    |              |
| C3053    | ECUX1H680JCV | C.CAPACITOR CH 50V 68P    |              |
| C3054    | ECUX1H680JCV | C.CAPACITOR CH 50V 68P    |              |
| C3501    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |              |
| C3502    | ECUX1H103KBV | C.CAPACITOR CH 50V 0.01U  |              |
| C3503    | ECUX1H103KBV | C.CAPACITOR CH 50V 0.01U  |              |
| C3505    | ECUX1H103KBV | C.CAPACITOR CH 50V 0.01U  |              |
| C3506    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C3507    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C3508    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C3509    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C3510    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C3511    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4001    | ECUM1H222KBN | C.CAPACITOR CH 50V 2200P  |              |
| C4002    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4004    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C4005    | ECEA1HKS010  | E.CAPACITOR 50V 1U        |              |
| C4006    | ECUX1H272KBV | C.CAPACITOR CH 50V 2700P  |              |
| C4007    | ECUV1H122JCN | C.CAPACITOR CH 50V 1200P  | ECJ2VC1H122J |
| C4008    | ECEA1EKS4R7  | E.CAPACITOR 25V 4.7U      |              |
| C4009    | ECUM1C105ZFN | C.CAPACITOR CH 16V 1U     | F1J1C105A063 |
| C4010    | ECUX1E273KBV | C.CAPACITOR CH 25V 0.027U |              |
| C4011    | ECUX1H153KBV | C.CAPACITOR CH 50V 0.015U |              |
| C4013    | ECUX1H153KBV | C.CAPACITOR CH 50V 0.015U |              |
| C4014    | ECEA1HKS010  | E.CAPACITOR 50V 1U        |              |
| C4015    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |              |
| C4016    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4017    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C4018    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4019    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C4020    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |              |
| C4026    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C4028    | ECUX1E223KBV | C.CAPACITOR CH 25V 0.022U | F1H1E223A024 |
| C4029    | ECUX1H152KBV | C.CAPACITOR CH 50V 1500P  | ECJ1XB1H152K |
| C4030    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |              |
| C4031    | ECQB1H223JF3 | P.CAPACITOR 50V 0.022U    |              |
| C4032    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J |
| C4034    | ECUX1H822KBV | C.CAPACITOR CH 50V 8200P  |              |
| C4501    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |

| Ref. No. | Part No.     | Part Name & Description   | Remarks      |
|----------|--------------|---------------------------|--------------|
| C4502    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4503    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4504    | ECQB1H473JF4 | P.CAPACITOR 50V 0.047U    |              |
| C4505    | ECEA1AKS330B | E.CAPACITOR 10V 33U       |              |
| C4506    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4507    | ECEA1CKS220  | E.CAPACITOR 16V 22U       |              |
| C4508    | ECQB1H153JF  | P.CAPACITOR 50V 0.015U    |              |
| C4509    | ECUX1C333KBV | C.CAPACITOR CH 16V 0.033U |              |
| C4510    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z |
| C4511    | ECUX1H151JCV | C.CAPACITOR CH 50V 150P   | ECJ1XC1H151J |
| C4512    | ECUX1H151JCV | C.CAPACITOR CH 50V 150P   | ECJ1XC1H151J |
| C4513    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z |
| C4514    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z |
| C4515    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     |              |
| C4516    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C4518    | ECUV1C224KBN | C.CAPACITOR CH 16V 0.22U  | ECJ2VB1C224K |
| C4519    | ECQB1H153JF3 | P.CAPACITOR 50V 0.015U    |              |
| C4520    | ECEA1CKS220  | E.CAPACITOR 16V 22U       |              |
| C4521    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4522    | ECQB1H473JF3 | P.CAPACITOR 50V 0.047U    |              |
| C4523    | ECEA1AKS330  | E.CAPACITOR 10V 33U       |              |
| C4528    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4529    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4530    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4531    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4532    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4533    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |              |
| C4534    | ECEA1AKS220  | E.CAPACITOR 10V 22U       |              |
| C4536    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4537    | ECUX1H103KBV | C.CAPACITOR CH 50V 0.01U  |              |
| C4538    | ECEA1CKA470  | E.CAPACITOR 16V 47U       |              |
| C4540    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4541    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4901    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J |
| C4902    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J |
| C4903    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4904    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4905    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4906    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4907    | ECUX1H470JCV | C.CAPACITOR CH 50V 47P    | ECJ1XC1H470J |
| C4908    | ECUX1H470JCV | C.CAPACITOR CH 50V 47P    | ECJ1XC1H470J |
| C4909    | ECUX1H470JCV | C.CAPACITOR CH 50V 47P    | ECJ1XC1H470J |
| C4910    | ECUX1H470JCV | C.CAPACITOR CH 50V 47P    | ECJ1XC1H470J |
| C4912    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4913    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4914    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4915    | ECJ1XB1H471K | C.CAPACITOR CH 50V 470P   |              |
| C4916    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4919    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K |
| C4920    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C4921    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |              |
| C4923    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C4925    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |              |
| C4926    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |              |

| Ref. No. | Part No.     | Part Name & Description   | Remarks                |
|----------|--------------|---------------------------|------------------------|
| C4928    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K           |
| C4929    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                        |
| C4930    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                        |
| C4937    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K           |
| C4941    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                        |
| C4942    | ECUX1C104KBV | C.CAPACITOR CH 16V 0.1U   | ECJ1XB1C104K           |
| C4946    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | ECJ1XB1H222K           |
| C6001    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                        |
| C6002    | ECUX1H151JCV | C.CAPACITOR CH 50V 150P   | ECJ1XC1H151J           |
| C6003    | ECUX1H471JCV | C.CAPACITOR CH 50V 470P   | ECJ1XC1H471J           |
| C6004    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z           |
| C6005    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z           |
| C6008    | ECUX1H102KBV | C.CAPACITOR CH 50V 1000P  |                        |
| C6009    | ECUX1H180JCV | C.CAPACITOR CH 50V 18P    |                        |
| C6010    | ECUX1H180JCV | C.CAPACITOR CH 50V 18P    |                        |
| C6011    | ECUX1H180JCV | C.CAPACITOR CH 50V 18P    |                        |
| C6012    | ECUX1H220JCV | C.CAPACITOR CH 50V 22P    | ECJ1XC1H220J           |
| C6013    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                        |
| C6014    | ECUX1H102KBV | C.CAPACITOR CH 50V 1000P  |                        |
| C6015    | ECEA1CKS100  | E.CAPACITOR 16V 10U       |                        |
| C6016    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | *1,*2,*4 ECJ1XF1H103Z  |
| C6017    | ECUX1H681JCV | C.CAPACITOR CH 50V 680P   |                        |
| C7301    | ECUV1H103KBN | C.CAPACITOR CH 50V 0.01U  | *1 ECJ2VB1H103K        |
| C7301    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | *2,*3,*4 ECJ1XF1H103Z  |
| C7302    | ECEA1HKNR47B | E.CAPACITOR 50V 0.47U     | *1                     |
| C7303    | ECEA1HKNR47B | E.CAPACITOR 50V 0.47U     | *1                     |
| C7304    | ECUV1H681JCN | C.CAPACITOR CH 50V 680P   | *1                     |
| C7304    | VCEA0JAW101  | E.CAPACITOR 6.3V 100U     | *2,*3,*4               |
| C7305    | ECUV1H123KBN | C.CAPACITOR CH 50V 0.012U | [MAVD] *1 ECJ2VB1H123K |
| C7305    | ECUX1H330JCV | C.CAPACITOR CH 50V 33P    | *2,*3,*4 ECJ1XC1H330J  |
| C7306    | ECUV1H123KBN | C.CAPACITOR CH 50V 0.012U | [MAVD] *1 ECJ2VB1H123K |
| C7306    | ECUX1H330JCV | C.CAPACITOR CH 50V 33P    | *2,*3,*4 ECJ1XC1H330J  |
| C7307    | ECUV1H681JCN | C.CAPACITOR CH 50V 680P   | *1                     |
| C7307    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | *2,*3,*4 ECJ1XF1H103Z  |
| C7308    | ECEA1HKNR47B | E.CAPACITOR 50V 0.47U     | *1                     |
| C7308    | ECEA1HKS2R2  | E.CAPACITOR 50V 2.2U      | *2,*3,*4               |
| C7309    | ECUV1H103KBN | C.CAPACITOR CH 50V 0.01U  | *1 ECJ2VB1H103K        |
| C7310    | ECUV1H103KBN | C.CAPACITOR CH 50V 0.01U  | *1 ECJ2VB1H103K        |
| C7311    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0     | *2,*3,*4               |
| C7312    | ECEA1CKS100  | E.CAPACITOR 16V 10U       | *1                     |
| C7312    | ECUX1H220JCV | C.CAPACITOR CH 50V 22P    | *2,*3,*4 ECJ1XC1H220J  |
| C7313    | ECEA1CKS100  | E.CAPACITOR 16V 10U       | *1                     |
| C7313    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   | *2,*3,*4               |
| C7315    | ECUV1E104KBN | C.CAPACITOR CH 25V 0.1U   | *2,*3,*4 F1J1E1040007  |
| C7316    | ECUV1H104ZFN | C.CAPACITOR CH 50V 0.1U   | *1 ECJ2VF1H104Z        |
| C7316    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   | *2,*3,*4               |
| C7317    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     | *1                     |
| C7317    | VCEA1CAW100  | E.CAPACITOR 16V 10U       | *2,*3,*4 F2A1C1000015  |
| C7318    | ECEA1CKS100  | E.CAPACITOR 16V 10U       | *1                     |
| C7318    | VCEA0JAW470  | E.CAPACITOR 6.3V 47U      | *2,*3,*4 F2A0J4700008  |
| C7319    | ECEA1CKA470  | E.CAPACITOR 16V 47U       | *1                     |
| C7319    | VCEA1CAW100  | E.CAPACITOR 16V 10U       | *2,*3,*4 F2A1C1000015  |
| C7320    | ECUV1H472KBN | C.CAPACITOR CH 50V 4700P  | *1 F1J1H472A592        |
| C7320    | VCEA1CAW100  | E.CAPACITOR 16V 10U       | *2,*3,*4 F2A1C1000015  |

| Ref. No. | Part No.     | Part Name & Description   | Remarks                                                                               |
|----------|--------------|---------------------------|---------------------------------------------------------------------------------------|
| C7321    | ECEA1HKAR47B | E.CAPACITOR 50V 0.47U     | *1                                                                                    |
| C7322    | ECEA1HKNR47B | E.CAPACITOR 50V 0.47U     | *1                                                                                    |
| C7323    | ECUV1H104KBN | C.CAPACITOR CH 50V 0.1U   | *1 ECJ2YB1H104K                                                                       |
| C7324    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   | *2,*3,*4                                                                              |
| C7325    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   | *2,*3,*4                                                                              |
| C7326    | ECUM1H152KBM | C.CAPACITOR CH 50V 1500P  | *1                                                                                    |
| C7327    | ECUM1H152KBM | C.CAPACITOR CH 50V 1500P  | *1                                                                                    |
| C7328    | ECUM1H152KBM | C.CAPACITOR CH 50V 1500P  | *1                                                                                    |
| C7341    | ECUX1H472KBV | C.CAPACITOR CH 50V 4700P  | *2,*3,*4                                                                              |
| C7342    | ECUX1H472KBV | C.CAPACITOR CH 50V 4700P  | *2,*3,*4                                                                              |
| C7343    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | *2,*3,*4 ECJ1XB1H222K                                                                 |
| C7501    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z                                                                          |
| C7502    | ECEA1HKS100  | E.CAPACITOR 50V 10U       | ECEA1HKA100B                                                                          |
| C7503    | ECUX1H120JCV | C.CAPACITOR CH 50V 12P    |                                                                                       |
| C7504    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     |                                                                                       |
| C7507    | VCE0073      | SUPER CAPACITOR           |                                                                                       |
| C7508    | ECEA1AKS221  | E.CAPACITOR 10V 220U      |                                                                                       |
| C7509    | ECUX1H682KBV | C.CAPACITOR CH 50V 6800P  |                                                                                       |
| C7510    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z                                                                          |
| C7511    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                                                                                       |
| C7603    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     |                                                                                       |
| C7604    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     |                                                                                       |
| C7610    | ECEA1HKS010  | E.CAPACITOR 50V 1U        |                                                                                       |
| C7613    | ECUV1H103ZFN | C.CAPACITOR CH 50V 0.01U  | *1,*2,*4 F1J1H103A538                                                                 |
| C7614    | ECUX1H330JCV | C.CAPACITOR CH 50V 33P    | ECJ1XC1H330J                                                                          |
| C7615    | ECUX1H330JCV | C.CAPACITOR CH 50V 33P    | ECJ1XC1H330J                                                                          |
| C7616    | ECEA0JKS101  | E.CAPACITOR 6.3V 100U     |                                                                                       |
| C7617    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | ECJ1XF1H103Z                                                                          |
| C7620    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   | *4                                                                                    |
| C7623    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | *2,*3,*4 ECJ1XF1H103Z                                                                 |
| C7625    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | *2,*3,*4 ECJ1XB1H222K                                                                 |
| C7626    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | *2,*3,*4 ECJ1XB1H222K                                                                 |
| C7627    | ECUX1H103ZFV | C.CAPACITOR CH 50V 0.01U  | *1,*2,*4 ECJ1XF1H103Z                                                                 |
| C7701    | ECUX1H151JCV | C.CAPACITOR CH 50V 150P   | ECJ1XC1H151J                                                                          |
| C7702    | ECUX1C474ZFV | C.CAPACITOR CH 16V 0.47U  | ECJ1VF1C474Z                                                                          |
| C7703    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                                                                                       |
| C7704    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                                                                                       |
| C7705    | ECUX1H222KBV | C.CAPACITOR CH 50V 2200P  | ECJ1XB1H222K                                                                          |
| C7706    | ECUX1C333KBV | C.CAPACITOR CH 16V 0.033U |                                                                                       |
| C7707    | ECUX1C104ZFV | C.CAPACITOR CH 16V 0.1U   |                                                                                       |
| C7708    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J                                                                          |
| C7709    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J                                                                          |
| C7711    | ECUX1H221JCV | C.CAPACITOR CH 50V 220P   | ECJ1XC1H221J                                                                          |
| C7712    | ECUM1C105ZFN | C.CAPACITOR CH 16V 1U     | F1J1C105A063                                                                          |
| C7713    | ECEA0JKS470  | E.CAPACITOR 6.3V 47U      |                                                                                       |
|          |              |                           |                                                                                       |
| D0702    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0     | D0GBR00JA017                                                                          |
| D1003    | MA4056N-H    | DIODE                     | MAZ4056NH                                                                             |
| D1004    | MA4056N-H    | DIODE                     | MAZ4056NH                                                                             |
| D1006    | MA4056N-H    | DIODE                     | MAZ4056NH                                                                             |
| D1008    | MA4130N-L    | DIODE                     | MAZ4130NL                                                                             |
| D1101    | ERZVA5Z471   | TRANSIENT/SURGE ABSORBER  |  |
| D1103    | DF08S-6622   | DIODE                     | B0KB00000013                                                                          |
| D1104    | MA4027-L     | DIODE                     | [MAVD] MAZ40270L                                                                      |

|       |         |       |                 |
|-------|---------|-------|-----------------|
| QUEST | QUEST 1 | QUEST | QUEST 2 QUEST 3 |
|-------|---------|-------|-----------------|

| Ref. No. | Part No.     | Part Name & Description | Remarks                                                                                            |
|----------|--------------|-------------------------|----------------------------------------------------------------------------------------------------|
| D1105    | MA165        | DIODE                   | MA2C165                                                                                            |
| D1106    | MA185        | DIODE                   | MA2C185                                                                                            |
| D1107    | MAZ751000C   | DIODE                   |                                                                                                    |
| D1108    | AU01Z        | DIODE                   | B0HAGM000006                                                                                       |
| D1201    | MA185        | DIODE                   | MA2C185                                                                                            |
| D1204    | 21DQ10FC4    | DIODE                   | B0JAML000007                                                                                       |
| D1206    | 11EQS04      | DIODE                   | B0JAME000020                                                                                       |
| D1207    | 11EQS04      | DIODE                   | B0JAME000020                                                                                       |
| D1208    | MA185        | DIODE                   | MA2C185                                                                                            |
| D1209    | 11EQS04      | DIODE                   | B0JAME000020                                                                                       |
| D1501    | SIR505S      | DIODE                   | B3EA00000040                                                                                       |
| D2501    | MA165        | DIODE                   | MA2C165                                                                                            |
| D2502    | MA165        | DIODE                   | MA2C165                                                                                            |
| D3001    | MA165        | DIODE                   | MA2C165                                                                                            |
| D4502    | MA165        | DIODE                   | MA2C165                                                                                            |
| D4901    | MA4051N-M    | DIODE                   | MAZ4051NM                                                                                          |
| D4902    | MA4051N-M    | DIODE                   | MAZ4051NM                                                                                          |
| D4903    | MA165        | DIODE                   | MA2C165                                                                                            |
| D4904    | MA165        | DIODE                   | MA2C165                                                                                            |
| D7501    | MA4220N-M    | DIODE                   | [MAVD]                                                                                             |
| D7503    | RB441P       | DIODE                   |                                                                                                    |
| D7601    | MA4300M      | DIODE                   | MAZ43000M                                                                                          |
| D7701    | MA165        | DIODE                   | MA2C165                                                                                            |
|          |              |                         |                                                                                                    |
| DP7501   | A2BD00000040 | DISPLAY TUBE            |                                                                                                    |
|          |              |                         |                                                                                                    |
| F1101    | VSF0243C16   | FUSE                    |  K5D162BL0004 |
|          |              |                         |                                                                                                    |
| FL7301   | VLF0633      | FILTER                  | *2,*3,*4 J0HACK000008                                                                              |
|          |              |                         |                                                                                                    |
| IC0701   | LA75503      | IC                      | C1AA00000606                                                                                       |
| IC1201   | UPC1093J     | IC                      | C0DAEMC00002                                                                                       |
| IC1501   | RPI354N      | IC                      | B3EZ00000001                                                                                       |
| IC1502   | RPI354N      | IC                      | B3EZ00000001                                                                                       |
| IC2501   | AN3811NK     | IC                      |                                                                                                    |
| IC3001   | AN3531NFBS   | IC                      |                                                                                                    |
| IC3501   | AN3368SB     | IC                      |                                                                                                    |
| IC4501   | AN3656NFBPBV | IC                      |                                                                                                    |
| IC4901   | LA73021M     | IC                      | C1AB00000933                                                                                       |
| IC6001   | C2CBJG000215 | IC                      | [MAVD]                                                                                             |
| IC7301   | C0ZBZ0000580 | IC                      | [MAVD] *1                                                                                          |
| IC7301   | TDA9874AH    | IC                      | *2,*3,*4 C1AB00001404                                                                              |
| IC7302   | PST7043      | IC                      | *2,*3,*4 C0EAH0000051                                                                              |
| IC7501   | M35502AFP    | IC                      |                                                                                                    |
| IC7502   | PNA4618M08VT | IC                      | [MAVD]                                                                                             |
| IC7503   | C0EBE0000211 | IC                      | [MAVD]                                                                                             |
| IC7504   | C0EBH0000218 | IC                      | [MAVD]                                                                                             |
| IC7701   | C1AB00001293 | IC                      | [MAVD]                                                                                             |
| IC7702   | M24C16-WBN6  | IC                      | C3EAGC000015                                                                                       |
|          |              |                         |                                                                                                    |
| JK4901   | VJJ0377      | PHONO JACK              | K2HA202B0018                                                                                       |
| JK4902   | K1FB121B0003 | SOCKET                  | [MAVD]                                                                                             |
| JK4903   | K1FB121B0003 | SOCKET                  | [MAVD]                                                                                             |
|          |              |                         |                                                                                                    |

| Ref. No. | Part No.     | Part Name & Description | Remarks                                                                               |
|----------|--------------|-------------------------|---------------------------------------------------------------------------------------|
| K0703    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0   |                                                                                       |
| K0707    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0   |                                                                                       |
| K0709    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0   |                                                                                       |
| K1213    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K3003    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K3506    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K3508    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K3509    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K4004    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K4007    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K4917    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K4919    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7301    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7302    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *2,*3,*4 D0GBR00JA017                                                                 |
| K7303    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *2,*3,*4 D0GBR00JA017                                                                 |
| K7502    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7602    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *4 D0GBR00JA017                                                                       |
| K7603    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7605    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7611    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| K7613    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *4 D0GBR00JA017                                                                       |
| K7702    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | D0GBR00JA017                                                                          |
| L0701    | ELJNAR18JF   | CHIP INDUCTOR           | *1,*2                                                                                 |
| L0701    | ELJNAR22JF   | CHIP INDUCTOR           | *3                                                                                    |
| L0701    | ELJNAR27JF   | INDUCTOR 0.27UH         | *4                                                                                    |
| L0703    | ELJNA2R2JF   | INDUCTOR 2.2UH          | *1,*2,*4                                                                              |
| L0703    | ELJNA1R8JF   | CHIP INDUCTOR           | *3                                                                                    |
| L1101    | ELF15N005A   | LINE FILTER             |  |
| L1102    | ELF15N003A   | LINE FILTER             |  |
| L1201    | VLQ0775K220  | CHOKE COIL              | [MAVD]                                                                                |
| L1202    | G0A220G00018 | COIL                    | G0A220G00019                                                                          |
| L2501    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                          |
| L3002    | VLQ0599J220  | COIL 22UH               | G0C220JA0026                                                                          |
| L3005    | VLQ0599J470  | COIL 47UH               | G0C470JA0026                                                                          |
| L3006    | VLQ0599J101  | COIL 100UH              | G0C101JA0026                                                                          |
| L3007    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                          |
| L3008    | VLQ0599J101  | COIL 100UH              | G0C101JA0026                                                                          |
| L3009    | VLQ0599J330  | COIL 33UH               | G0C330JA0026                                                                          |
| L3010    | VLQ0599J470  | COIL 47UH               | G0C470JA0026                                                                          |
| L3011    | VLQ0599J390  | COIL 39UH               | G0C390JA0026                                                                          |
| L3012    | VLQ0599J560  | COIL 56UH               | G0C560JA0026                                                                          |
| L3501    | VLQ0599J330  | COIL 33UH               | G0C330JA0026                                                                          |
| L4001    | ELELN153JA   | INDUCTOR 15000UH        |                                                                                       |
| L4003    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                          |
| L4502    | VLQ0599J1R2  | COIL 1.2UH              | G0C1R2JA0026                                                                          |
| L4901    | VLQ0599JR22  | COIL 0.22UH             |                                                                                       |
| L4902    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                          |
| L4903    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                          |
| L6001    | VLQ0599J101  | COIL 100UH              | G0C101JA0026                                                                          |
| L7302    | VLQ0599J1R0  | COIL 1UH                | *2,*3,*4 G0C1R0JA0026                                                                 |
| L7601    | VLQ0599J330  | COIL 33UH               | G0C330JA0026                                                                          |
| L7602    | VLQ0599J270  | COIL 27UH               | *1,*2,*4 G0C270JA0026                                                                 |

| Ref. No. | Part No.     | Part Name & Description | Remarks                                                                                      |
|----------|--------------|-------------------------|----------------------------------------------------------------------------------------------|
| L7603    | VLQ0599J270  | COIL 27UH               | G0C270JA0026                                                                                 |
| L7604    | VLQ0599J2R2  | COIL 2.2UH              | G0C2R2JA0026                                                                                 |
| L7607    | VLQ0599J100  | COIL 10UH               | *2,*3,*4 G0C100JA0026                                                                        |
| L7608    | VLQ0599J2R2  | COIL 2.2UH              | *2,*3,*4 G0C2R2JA0026                                                                        |
| L7609    | VLQ0599J100  | COIL 10UH               | *1,*2,*4 G0C100JA0026                                                                        |
| L7701    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                                 |
| L7703    | VLQ0599J680  | COIL 68UH               | G0C680JA0026                                                                                 |
|          |              |                         |                                                                                              |
| LB0701   | VLP0147      | COIL                    | *4 J0JBC0000041                                                                              |
| LB1102   | J0JHC0000070 | FILTER                  | [MAVD]                                                                                       |
| LB1106   | J0JHC0000070 | FILTER                  | [MAVD]                                                                                       |
| LB1107   | J0JKB0000028 | FILTER                  | J0JKB0000027                                                                                 |
| LB1109   | J0JKB0000028 | FILTER                  | J0JKB0000027                                                                                 |
| LB3501   | VLP0147      | COIL                    | J0JBC0000041                                                                                 |
| LB3502   | VLP0147      | COIL                    | J0JBC0000041                                                                                 |
| LB3503   | VLP0147      | COIL                    | J0JBC0000041                                                                                 |
| LB3504   | VLP0147      | COIL                    | J0JBC0000041                                                                                 |
| LB4901   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB4902   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB4903   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB4904   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB4905   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB4906   | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220 |                                                                                              |
| LB7301   | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *2,*3,*4 D0GBR00JA017                                                                        |
| LB7303   | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0   | *2,*3,*4 D0GBR00JA017                                                                        |
|          |              |                         |                                                                                              |
| LR1101   | VLP0392      | COIL                    |                                                                                              |
|          |              |                         |                                                                                              |
| P1102    | K2AA2K000012 | AC INLET                |  [MAVD] |
| P1501    | VJS3837A002  | CONNECTOR (FEMALE) 2P   | K1KB02A00035                                                                                 |
| P2501    | VJP3835E012  | CONNECTOR (MALE) 12P    | [MAVD]K1KA12A00127                                                                           |
| P2502    | VJS3537A009G | CONNECTOR (FEMALE) 9P   | K1MN09A00012                                                                                 |
| P3502    | VJS3537A010G | CONNECTOR (FEMALE) 10P  | K1MN10A00036                                                                                 |
| P4002    | VJS3837A002  | CONNECTOR (FEMALE) 2P   | K1KB02A00035                                                                                 |
| P4003    | VJS3537A006G | CONNECTOR (FEMALE) 6P   | K1MN06A00034                                                                                 |
|          |              |                         |                                                                                              |
| PK0701   | VJR0826E009W | CONNECTOR (MALE) 9P     | K1MR09A00028                                                                                 |
| PK7301   | VJR0777B007W | CONNECTOR (MALE) 7P     | K1MM07B00002                                                                                 |
| PK7302   | VJR0777B006W | CONNECTOR (MALE) 6P     | K1MM06B00002                                                                                 |
|          |              |                         |                                                                                              |
| PP0701   | VJP3589E004B | CONNECTOR (MALE) 4P     | K1KA04B00135                                                                                 |
|          |              |                         |                                                                                              |
| Q0702    | 2SD601A-S    | TRANSISTOR              |                                                                                              |
| Q1001    | 2SC1959-Y    | TRANSISTOR              |                                                                                              |
| Q1002    | 2SD602A-R    | TRANSISTOR              | 2SD0602AR                                                                                    |
| Q1003    | 2SC1959-Y    | TRANSISTOR              |                                                                                              |
| Q1004    | 2SC1959-Y    | TRANSISTOR              |                                                                                              |
| Q1005    | 2SD602A-R    | TRANSISTOR              | 2SD0602AR                                                                                    |
| Q1006    | 2SD601A-R    | TRANSISTOR              | 2SD0601AR                                                                                    |
| Q1007    | 2SC1959-Y    | TRANSISTOR              |                                                                                              |
| Q1008    | 2SB710A      | TRANSISTOR              | *1,*2 2SB0710A                                                                               |
| Q1010    | 2SC1959-Y    | TRANSISTOR              |                                                                                              |
| Q1011    | 2SD601A-R    | TRANSISTOR              | 2SD0601AR                                                                                    |
| Q1101    | 2SK2876      | TRANSISTOR              | [MAVD]                                                                                       |

|          |        |       |        |
|----------|--------|-------|--------|
| QUESTION | ANSWER | MARKS | STATUS |
|----------|--------|-------|--------|

| Ref. No. | Part No.     | Part Name & Description  | Remarks                                                                             |
|----------|--------------|--------------------------|-------------------------------------------------------------------------------------|
| Q1102    | B1DEDR000003 | TRANSISTOR               |                                                                                     |
| Q1103    | 2SC3311A-S   | TRANSISTOR               | 2SC3311AS                                                                           |
| Q1104    | 2SD1992A-R   | TRANSISTOR               |                                                                                     |
| Q1201    | PS2561L2V13W | PHOTO COUPLER            |  |
| Q1501    | PNB2301MBV   | TRANSISTOR               |                                                                                     |
| Q1502    | PNB2301MAV   | TRANSISTOR               |                                                                                     |
| Q4001    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q4002    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q4005    | 2SB710-R     | TRANSISTOR               | 2SB07100R                                                                           |
| Q4006    | 2SD602A-R    | TRANSISTOR               | 2SD0602AR                                                                           |
| Q4901    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q4903    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q4904    | 2SB709A      | TRANSISTOR               | 2SB0709A                                                                            |
| Q7701    | 2SB709A      | TRANSISTOR               | 2SB0709A                                                                            |
| Q7702    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q7703    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
| Q7704    | 2SD601A-R    | TRANSISTOR               | 2SD0601AR                                                                           |
|          |              |                          |                                                                                     |
| QR1001   | UN2112       | TRANSISTOR               | UNR2112                                                                             |
| QR1002   | UN2211       | TRANSISTOR               | *1,*2 UNR2211                                                                       |
| QR3502   | UN2212       | TRANSISTOR-RESISTOR      | UNR2212                                                                             |
| QR4001   | UN2212       | TRANSISTOR-RESISTOR      | UNR2212                                                                             |
| QR4002   | UN2211       | TRANSISTOR               | UNR2211                                                                             |
| QR4003   | UN2111       | TRANSISTOR               | UNR211100L                                                                          |
| QR4005   | UN2113       | TRANSISTOR-RESISTOR      | UNR2113                                                                             |
| QR4501   | UN2216       | TRANSISTOR               | UNR2216                                                                             |
| QR4502   | UN2216       | TRANSISTOR               | UNR2216                                                                             |
| QR4503   | UN2216       | TRANSISTOR               | UNR2216                                                                             |
| QR4504   | UN2216       | TRANSISTOR               | UNR2216                                                                             |
| QR4505   | UN2113       | TRANSISTOR-RESISTOR      | UNR2113                                                                             |
| QR4506   | UN2216       | TRANSISTOR               | UNR2216                                                                             |
| QR4903   | UN2212       | TRANSISTOR-RESISTOR      | UNR2212                                                                             |
| QR4904   | UN2215       | TRANSISTOR-RESISTOR      | UNR2215                                                                             |
| QR4905   | UN2215       | TRANSISTOR-RESISTOR      | UNR2215                                                                             |
| QR6001   | UN2215       | TRANSISTOR-RESISTOR      | UNR2215                                                                             |
| QR6006   | UN2211       | TRANSISTOR               | *1,*2 UNR2211                                                                       |
| QR7601   | UN2215       | TRANSISTOR-RESISTOR      | *1 UNR2215                                                                          |
|          |              |                          |                                                                                     |
| R0701    | ERJ6GEYG104  | M.RESISTOR CH 1/10W 100K | *3                                                                                  |
| R0705    | ERJ3GEYJ472  | M.RESISTOR CH 1/16W 4.7K |                                                                                     |
| R0707    | ERJ3GEYJ393  | M.RESISTOR CH 1/16W 39K  |                                                                                     |
| R0708    | ERJ3GEYJ103  | M.RESISTOR CH 1/16W 10K  |                                                                                     |
| R0709    | ERJ6GEYG104  | M.RESISTOR CH 1/10W 100K | *4                                                                                  |
| R0711    | ERJ3GEYJ181V | M.RESISTOR CH 1/16W 180  |                                                                                     |
| R0713    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0    |                                                                                     |
| R0714    | ERJ3GEYJ562V | M.RESISTOR CH 1/16W 5.6K | *4 D0GB562JA002                                                                     |
| R0715    | ERJ3GEYJ223  | M.RESISTOR CH 1/16W 22K  |                                                                                     |
| R0717    | ERJ3GEYJ471  | M.RESISTOR CH 1/16W 470  |                                                                                     |
| R0719    | ERJ3GEYJ472  | M.RESISTOR CH 1/16W 4.7K |                                                                                     |
| R0725    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                                                                                     |
| R0727    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0    |                                                                                     |
| R0728    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0    | *3                                                                                  |
| R0729    | ERJ3GEYJ103  | M.RESISTOR CH 1/16W 10K  | *1,*2,*3                                                                            |
| R0730    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  | *1,*2                                                                               |

| Notes | Enclosures | Minister's Correspondence | File |
|-------|------------|---------------------------|------|
|-------|------------|---------------------------|------|

| Ref. No. | Part No.     | Part Name & Description  | Remarks         |
|----------|--------------|--------------------------|-----------------|
| R0731    | ERJ3GEYJ101  | M.RESISTOR CH 1/16W 100  | *4 D0GB101JA002 |
| R0732    | ERJ3GEYJ472  | M.RESISTOR CH 1/16W 4.7K | *4              |
| R0740    | ERJ3GEYG471V | M.RESISTOR CH 1/16W 470  | *1,*2,*3        |
| R0740    | ERJ3GEYG271  | M.RESISTOR CH 1/16W 270  | *4              |
| R0741    | ERJ3GEYJ221  | M.RESISTOR CH 1/16W 220  |                 |
| R0742    | ERJ8GEYJ151  | M.RESISTOR CH 1/8W 150   |                 |
| R0745    | ERJ6GEYJ335  | M.RESISTOR CH 1/10W 3.3M |                 |
| R1001    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |                 |
| R1002    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |                 |
| R1003    | ERJ6GEYJ563  | M.RESISTOR CH 1/10W 56K  |                 |
| R1004    | ERJ6GEYJ563  | M.RESISTOR CH 1/10W 56K  |                 |
| R1006    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                 |
| R1007    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                 |
| R1008    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |                 |
| R1009    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |                 |
| R1010    | ERDS2FJ103   | C.RESISTOR 1/4W 10K      |                 |
| R1011    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                 |
| R1012    | ERDS2FJ471   | C.RESISTOR 1/4W 470      |                 |
| R1015    | ERDS2FJ102   | C.RESISTOR 1/4W 1K       |                 |
| R1016    | ERDS2FJ102   | C.RESISTOR 1/4W 1K       |                 |
| R1017    | ERDS2FJ471   | C.RESISTOR 1/4W 470      |                 |
| R1023    | ERDS2FJ103   | C.RESISTOR 1/4W 10K      |                 |
| R1025    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K | *1,*2           |
| R1026    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  | *1,*2           |
| R1027    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  | *1,*2           |
| R1029    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                 |
| R1030    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                 |
| R1102    | ERDS2TJ105T  | C.RESISTOR 1/4W 1M       |                 |
| R1103    | ERDS2TJ105T  | C.RESISTOR 1/4W 1M       |                 |
| R1104    | ERDS2FJ102   | C.RESISTOR 1/4W 1K       |                 |
| R1105    | ERDS2FJ101   | C.RESISTOR 1/4W 100      |                 |
| R1106    | ERG2SJ331E   | M.RESISTOR 2W 330        | [MAVD]          |
| R1107    | ERDS2FJ101   | C.RESISTOR 1/4W 100      |                 |
| R1108    | ERX1SJR51E   | M.RESISTOR 1W 0.51       | [MAVD]          |
| R1109    | ER0S2CKF1801 | M.RESISTOR 1/4W 180      |                 |
| R1110    | ERDS2FJ104   | C.RESISTOR 1/4W 100K     | ERDS2TJ104T     |
| R1111    | ERDS2FJ331   | C.RESISTOR 1/4W 330      |                 |
| R1112    | ERDS2FJ3R3   | C.RESISTOR 1/4W 3.3      | ERDS2TJ3R3T     |
| R1113    | ERDS2FJ330   | C.RESISTOR 1/4W 33       | ERDS2TJ330T     |
| R1201    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |                 |
| R1202    | ERJ6GEYG271  | M.RESISTOR CH 1/10W 270  |                 |
| R1203    | ERJ6GEYG223V | M.RESISTOR CH 1/10W 22K  |                 |
| R1204    | ERJ6GEYF123  | M.RESISTOR CH 1/10W 12K  |                 |
| R1205    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K | ERJ6GEYG222V    |
| R1206    | ERJ6GEYF333  | M.RESISTOR CH 1/10W 33K  |                 |
| R1207    | ERJ6GEYF333  | M.RESISTOR CH 1/10W 33K  |                 |
| R1208    | ERJ6GEYG822  | M.RESISTOR CH 1/10W 8.2K |                 |
| R1209    | ERJ6GEYG563V | M.RESISTOR CH 1/10W 56K  |                 |
| R1501    | ERDS2FJ121   | C.RESISTOR 1/4W 120      | ERDS2TJ121T     |
| R1502    | ERDS2TJ181   | C.RESISTOR 1/4W 180      |                 |
| R1503    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |                 |
| R1504    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |                 |
| R1505    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                 |
| R2501    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017    |

| Ref. No. | Part No.     | Part Name & Description  | Remarks      |
|----------|--------------|--------------------------|--------------|
| R2502    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |              |
| R2503    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |              |
| R2504    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |              |
| R2505    | ERJ6GEYG392  | M.RESISTOR CH 1/10W 3.9K |              |
| R2506    | ERJ6GEYG105  | M.RESISTOR CH 1/10W 1M   | ERJ6GEYJ105V |
| R2508    | ERJ6GEYG433  | M.RESISTOR CH 1/10W 43K  |              |
| R2509    | ERDS2FJ331   | C.RESISTOR 1/4W 330      |              |
| R2510    | ERDS2FJ330   | C.RESISTOR 1/4W 33       | ERDS2TJ330T  |
| R2511    | ERDS2FJ330   | C.RESISTOR 1/4W 33       | ERDS2TJ330T  |
| R2512    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R2515    | ERDS2FJ330   | C.RESISTOR 1/4W 33       | ERDS2TJ330T  |
| R2516    | ERJ6GEYJ1R5  | M.RESISTOR CH 1/10W 1.5  | [MAVD]       |
| R2517    | ERJ6GEYJ1R2  | M.RESISTOR CH 1/10W 1.2  |              |
| R3002    | ERJ6GEYG183  | M.RESISTOR CH 1/10W 18K  |              |
| R3006    | ERJ6GEYG271  | M.RESISTOR CH 1/10W 270  |              |
| R3007    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |
| R3012    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R3015    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |              |
| R3016    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |              |
| R3017    | ERJ6GEYG122  | M.RESISTOR CH 1/10W 1.2K |              |
| R3018    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |              |
| R3019    | ERJ6GEYF473  | M.RESISTOR CH 1/10W 47K  |              |
| R3022    | ERJ6GEYJ684  | M.RESISTOR CH 1/10W 680K |              |
| R3023    | ERJ6GEYJ224  | M.RESISTOR CH 1/10W 220K |              |
| R3025    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017 |
| R3026    | ERJ6GEYG392  | M.RESISTOR CH 1/10W 3.9K |              |
| R3027    | ERJ6GEYG271  | M.RESISTOR CH 1/10W 270  |              |
| R3028    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R3029    | ERJ6GEYG152V | M.RESISTOR CH 1/10W 1.5K |              |
| R3030    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |
| R3031    | ERJ6GEYG392  | M.RESISTOR CH 1/10W 3.9K |              |
| R3032    | ERJ6GEYG392  | M.RESISTOR CH 1/10W 3.9K |              |
| R3033    | ERJ6GEYG152V | M.RESISTOR CH 1/10W 1.5K |              |
| R3034    | ERJ6GEYJ225  | M.RESISTOR CH 1/10W 2.2M |              |
| R3501    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |              |
| R3503    | ERJ6GEYG391  | M.RESISTOR CH 1/10W 390  |              |
| R3504    | ERJ6GEYG301  | M.RESISTOR CH 1/10W 300  | [MAVD]       |
| R3506    | ER0S2CHF3600 | M.RESISTOR 1/4W 360      |              |
| R4001    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R4002    | ERJ6GEYJ334  | M.RESISTOR CH 1/10W 330K |              |
| R4003    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |              |
| R4004    | ERJ6GEYG241  | M.RESISTOR CH 1/10W 240  |              |
| R4005    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |              |
| R4006    | ERJ6GEYG753  | M.RESISTOR CH 1/10W 75K  |              |
| R4007    | ERJ6GEYJ153V | M.RESISTOR CH 1/10W 15K  |              |
| R4008    | ERJ6GEYJ224  | M.RESISTOR CH 1/10W 220K |              |
| R4009    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |              |
| R4010    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |              |
| R4011    | ERJ6GEYJ471  | M.RESISTOR CH 1/10W 470  |              |
| R4014    | ERJ6GEYG181  | M.RESISTOR CH 1/10W 180  |              |
| R4015    | ERJ6GEYG391  | M.RESISTOR CH 1/10W 390  |              |
| R4016    | ERJ6GEYJ225  | M.RESISTOR CH 1/10W 2.2M |              |
| R4017    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |              |
| R4018    | ERJ6GEYG183  | M.RESISTOR CH 1/10W 18K  |              |

| Ref. No. | Part No.     | Part Name & Description  | Remarks      |
|----------|--------------|--------------------------|--------------|
| R4019    | ERJ6GEYF333  | M.RESISTOR CH 1/10W 33K  |              |
| R4020    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4021    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K |              |
| R4022    | ERJ6GEYF561  | M.RESISTOR CH 1/10W 560  |              |
| R4026    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4027    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K |              |
| R4028    | ERJ6GEYG272  | M.RESISTOR CH 1/10W 2.7K |              |
| R4029    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K |              |
| R4030    | ERJ6GEYF822  | M.RESISTOR CH 1/10W 8.2K |              |
| R4501    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |              |
| R4502    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |              |
| R4503    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |              |
| R4504    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |              |
| R4508    | ERJ6GEYG681  | M.RESISTOR CH 1/10W 680  |              |
| R4509    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |              |
| R4510    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |              |
| R4511    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |              |
| R4512    | ERJ6GEYG683  | M.RESISTOR CH 1/10W 68K  |              |
| R4513    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |              |
| R4514    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |              |
| R4515    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4516    | ERJ6GEYJ511  | M.RESISTOR CH 1/10W 510  |              |
| R4517    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |              |
| R4518    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |              |
| R4519    | ERJ6GEYG821  | M.RESISTOR CH 1/10W 820  |              |
| R4520    | ERJ6GEYJ124V | M.RESISTOR CH 1/10W 120K |              |
| R4521    | ERJ6GEYJ511  | M.RESISTOR CH 1/10W 510  |              |
| R4522    | ERJ6GEYJ303  | M.RESISTOR CH 1/10W 30K  |              |
| R4523    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4524    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R4525    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R4527    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4528    | ERJ6GEYG391  | M.RESISTOR CH 1/10W 390  |              |
| R4529    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |              |
| R4531    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |              |
| R4535    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |              |
| R4536    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |              |
| R4537    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017 |
| R4538    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |              |
| R4902    | ERDS2FJ471   | C.RESISTOR 1/4W 470      |              |
| R4903    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |              |
| R4904    | ERJ6GEYJ153V | M.RESISTOR CH 1/10W 15K  |              |
| R4905    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |              |
| R4906    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |
| R4908    | ERJ6GEYJ750  | M.RESISTOR CH 1/10W 75   |              |
| R4909    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |              |
| R4910    | ERJ6GEYJ474V | M.RESISTOR CH 1/10W 470K |              |
| R4911    | ERJ6GEYJ750  | M.RESISTOR CH 1/10W 75   |              |
| R4912    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |
| R4913    | ERJ6GEYJ750  | M.RESISTOR CH 1/10W 75   |              |
| R4914    | ERJ6GEYJ750  | M.RESISTOR CH 1/10W 75   |              |
| R4915    | ERDS2FJ471   | C.RESISTOR 1/4W 470      |              |
| R4916    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |
| R4918    | ERJ6GEYG331  | M.RESISTOR CH 1/10W 330  |              |

| Ref. No. | Part No.     | Part Name & Description  | Remarks         |
|----------|--------------|--------------------------|-----------------|
| R4926    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                 |
| R4928    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017    |
| R4938    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                 |
| R4941    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                 |
| R4942    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017    |
| R4945    | ERJ6GEYJ153V | M.RESISTOR CH 1/10W 15K  |                 |
| R4946    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |                 |
| R4947    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                 |
| R4948    | ERJ6GEYJ106V | M.RESISTOR CH 1/10W 1M   |                 |
| R6001    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                 |
| R6002    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                 |
| R6003    | ERJ6GEYG183  | M.RESISTOR CH 1/10W 18K  |                 |
| R6004    | ERJ6GEYJ224  | M.RESISTOR CH 1/10W 220K |                 |
| R6005    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017    |
| R6008    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |                 |
| R6009    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |                 |
| R6011    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                 |
| R6012    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                 |
| R6013    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                 |
| R6014    | ERJ6GEYJ471  | M.RESISTOR CH 1/10W 470  |                 |
| R6015    | ERJ6GEYJ471  | M.RESISTOR CH 1/10W 470  |                 |
| R6016    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   | *1,*2           |
| R6017    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                 |
| R6018    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                 |
| R6019    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                 |
| R6020    | ERJ6GEYF393  | M.RESISTOR CH 1/10W 39K  |                 |
| R6021    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |                 |
| R6022    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                 |
| R6023    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |                 |
| R6025    | ERJ6GEYJ433V | M.RESISTOR CH 1/10W 43K  |                 |
| R6026    | ERJ6GEYF393  | M.RESISTOR CH 1/10W 39K  |                 |
| R6029    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                 |
| R6030    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                 |
| R6031    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K |                 |
| R7301    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | *1 D0GBR00JA017 |
| R7302    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0    | *2,*3,*4        |
| R7304    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K | *1              |
| R7305    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K | *1              |
| R7305    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  | *2,*3,*4        |
| R7306    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K | *1              |
| R7306    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  | *2,*3,*4        |
| R7307    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K | *1              |
| R7308    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K | *1              |
| R7309    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  | *1              |
| R7311    | ERJ6GEYJ752  | M.RESISTOR CH 1/10W 7.5K | *1              |
| R7312    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  | *1              |
| R7313    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  | *1              |
| R7314    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K | *1              |
| R7315    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | *1 D0GBR00JA017 |
| R7316    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K | *1              |
| R7316    | ERJ3GEYJ103  | M.RESISTOR CH 1/16W 10K  | *2,*3,*4        |
| R7317    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | *1 D0GBR00JA017 |
| R7318    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | *1 D0GBR00JA017 |
| R7319    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K | *1              |

| Ref. No. | Part No.     | Part Name & Description  | Remarks               |
|----------|--------------|--------------------------|-----------------------|
| R7320    | ERJ6GEYG332  | M.RESISTOR CH 1/10W 3.3K | *1                    |
| R7324    | ERJ3GEYJ221  | M.RESISTOR CH 1/16W 220  | *2,*3,*4              |
| R7325    | ERJ3GEY0R00  | M.RESISTOR CH 1/16W 0    | *2,*3,*4              |
| R7327    | ERJ3GEYJ822V | M.RESISTOR CH 1/16W 8.2K | *2,*3,*4 D0GB822JA002 |
| R7328    | ERJ3GEYJ221  | M.RESISTOR CH 1/16W 220  | *2,*3,*4              |
| R7329    | ERJ3GEYJ221  | M.RESISTOR CH 1/16W 220  | *2,*3,*4              |
| R7501    | ERJ6GEYF822  | M.RESISTOR CH 1/10W 8.2K |                       |
| R7502    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                       |
| R7503    | ERJ6GEYJ432V | M.RESISTOR CH 1/10W 4.3K |                       |
| R7504    | ERJ6GEYF822  | M.RESISTOR CH 1/10W 8.2K |                       |
| R7505    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                       |
| R7506    | ERJ6GEYJ432V | M.RESISTOR CH 1/10W 4.3K |                       |
| R7507    | ERDS2TJ560T  | C.RESISTOR 1/4W 56       | [MAVD]                |
| R7508    | ERDS2TJ560T  | C.RESISTOR 1/4W 56       | [MAVD]                |
| R7509    | ERJ6GEYJ750  | M.RESISTOR CH 1/10W 75   |                       |
| R7510    | ERDS2FJ821   | C.RESISTOR 1/4W 820      | ERDS2TJ821T           |
| R7511    | ERDS2FJ821   | C.RESISTOR 1/4W 820      | ERDS2TJ821T           |
| R7513    | ERJ6GEYJ303  | M.RESISTOR CH 1/10W 30K  |                       |
| R7514    | ERJ6GEYJ303  | M.RESISTOR CH 1/10W 30K  |                       |
| R7515    | ERJ6GEYJ303  | M.RESISTOR CH 1/10W 30K  |                       |
| R7516    | ERJ6GEYJ303  | M.RESISTOR CH 1/10W 30K  |                       |
| R7517    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                       |
| R7518    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                       |
| R7519    | ERJ6GEYJ432V | M.RESISTOR CH 1/10W 4.3K |                       |
| R7521    | ERJ6GEYJ223  | M.RESISTOR CH 1/10W 22K  |                       |
| R7534    | ERJ6GEYG181  | M.RESISTOR CH 1/10W 180  |                       |
| R7535    | ERJ6GEYG103  | M.RESISTOR CH 1/10W 10K  |                       |
| R7536    | ERJ6GEYG562  | M.RESISTOR CH 1/10W 5.6K |                       |
| R7537    | ERJ6GEYF123  | M.RESISTOR CH 1/10W 12K  |                       |
| R7538    | ERJ6GEYF123  | M.RESISTOR CH 1/10W 12K  |                       |
| R7539    | ERJ6GEYF822  | M.RESISTOR CH 1/10W 8.2K |                       |
| R7601    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | D0GBR00JA017          |
| R7604    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                       |
| R7605    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                       |
| R7606    | ERDS2FJ331   | C.RESISTOR 1/4W 330      |                       |
| R7607    | ERDS2FJ331   | C.RESISTOR 1/4W 330      |                       |
| R7608    | ERJ6GEYJ151V | M.RESISTOR CH 1/10W 150  |                       |
| R7610    | ERJ6GEYJ471  | M.RESISTOR CH 1/10W 470  |                       |
| R7611    | ERJ6GEYJ471  | M.RESISTOR CH 1/10W 470  |                       |
| R7613    | ERJ6GEYJ151V | M.RESISTOR CH 1/10W 150  |                       |
| R7614    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                       |
| R7615    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                       |
| R7616    | ERJ6GEY0R00V | M.RESISTOR CH 1/10W 0    | *1,*2,*3 D0GBR00JA017 |
| R7616    | ERJ6GEYG681  | M.RESISTOR CH 1/10W 680  | *4                    |
| R7617    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K | *4                    |
| R7618    | ERJ6GEYG563V | M.RESISTOR CH 1/10W 56K  | *1                    |
| R7701    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                       |
| R7702    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                       |
| R7703    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |                       |
| R7704    | ERJ6GEYG222  | M.RESISTOR CH 1/10W 2.2K |                       |
| R7705    | ERJ6GEYJ564V | M.RESISTOR CH 1/10W 560K |                       |
| R7706    | ERJ6GEYG104  | M.RESISTOR CH 1/10W 100K |                       |
| R7707    | ERJ6GEYJ125V | M.RESISTOR CH 1/10W 1.2M |                       |
| R7708    | ERJ6GEYJ125V | M.RESISTOR CH 1/10W 1.2M |                       |

| Ref. No. | Part No.     | Part Name & Description  | Remarks                                                                                            |
|----------|--------------|--------------------------|----------------------------------------------------------------------------------------------------|
| R7709    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K |                                                                                                    |
| R7710    | ERJ6GEYG682  | M.RESISTOR CH 1/10W 6.8K |                                                                                                    |
| R7711    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                                                                                                    |
| R7712    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                                                                                                    |
| R7713    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                                                                                                    |
| R7714    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                                                                                                    |
| R7715    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                                                                                                    |
| R7716    | ERJ6GEYJ472V | M.RESISTOR CH 1/10W 4.7K |                                                                                                    |
| R7717    | ERJ6GEYF473  | M.RESISTOR CH 1/10W 47K  |                                                                                                    |
| R7718    | ERJ6GEYJ273  | M.RESISTOR CH 1/10W 27K  |                                                                                                    |
| R7719    | ERJ6GEYJ225  | M.RESISTOR CH 1/10W 2.2M |                                                                                                    |
| R7720    | ERJ6GEYJ224  | M.RESISTOR CH 1/10W 220K |                                                                                                    |
| R7721    | ERJ6GEYG104  | M.RESISTOR CH 1/10W 100K |                                                                                                    |
| R7722    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                                                                                                    |
| R7723    | ERJ6GEYG104  | M.RESISTOR CH 1/10W 100K |                                                                                                    |
| R7724    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                                                                                                    |
| R7725    | ERJ6GEYG221  | M.RESISTOR CH 1/10W 220  |                                                                                                    |
| R7728    | ERJ6GEYF473  | M.RESISTOR CH 1/10W 47K  | *1,*2                                                                                              |
| R7729    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                                                                                                    |
| R7730    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                                                                                                    |
| R7731    | ERJ6GEYG102  | M.RESISTOR CH 1/10W 1K   |                                                                                                    |
| R7733    | ERJ6GEYJ101V | M.RESISTOR CH 1/10W 100  |                                                                                                    |
|          |              |                          |                                                                                                    |
| S1501    | K0G934A00002 | SWITCH                   | K0ZZ00000452                                                                                       |
| S7501    | EVQ11G07K    | SWITCH                   |                                                                                                    |
| S7502    | EVQ11G07K    | SWITCH                   |                                                                                                    |
| S7503    | EVQ11404M    | SWITCH                   |                                                                                                    |
| S7504    | EVQ11404M    | SWITCH                   |                                                                                                    |
| S7505    | EVQ11L07B    | SWITCH                   |                                                                                                    |
| S7506    | EVQPC005B    | SWITCH                   |                                                                                                    |
| S7507    | K0C111A00003 | SWITCH                   |                                                                                                    |
| S7511    | EVQ11L07B    | SWITCH                   |                                                                                                    |
| S7512    | EVQ11G07K    | SWITCH                   |                                                                                                    |
| S7513    | EVQ11L07B    | SWITCH                   |                                                                                                    |
| S7514    | EVQ11G07K    | SWITCH                   |                                                                                                    |
| S7515    | EVQ11L07B    | SWITCH                   |                                                                                                    |
| S7516    | EVQ11G07K    | SWITCH                   |                                                                                                    |
| S7517    | EVQ11L07B    | SWITCH                   |                                                                                                    |
|          |              |                          |                                                                                                    |
| T0701    | EQV5EC082P   | TRANSFORMER              | *1,*2                                                                                              |
| T0701    | EQV5EC083P   | TRANSFORMER              | *3                                                                                                 |
| T0701    | EQV5EC081P   | TRANSFORMER              | *4                                                                                                 |
| T1101    | ETS29AZ286AC | SWITCHING TRANSFORMER    |  [MAVD]       |
| T4002    | EQQ7QF024P   | TRANSFORMER              |                                                                                                    |
|          |              |                          |                                                                                                    |
| TU7601   | ENG47327G1   | TUNER                    |  [MAVD] *1,*2 |
| TU7601   | ENG47328G1   | TUNER                    |  [MAVD] *3    |
| TU7601   | ENG47329G1   | TUNER                    |  [MAVD] *4    |
|          |              |                          |                                                                                                    |
| VR0701   | EVNCYAA03B14 | V.RESISTOR 10K           |                                                                                                    |
| VR7301   | EVNCYAA03B14 | V.RESISTOR 10K           | *1                                                                                                 |
|          |              |                          |                                                                                                    |
| X0701    | VLF1416      | FILTER                   | *1,*2 J0B4045A0002                                                                                 |

| Ref. No. | Part No.     | Part Name & Description | Remarks                           |
|----------|--------------|-------------------------|-----------------------------------|
| X0701    | VLF1417      | FILTER                  | *3 J0B4155A0003                   |
| X0701    | VLF1430      | TRANSFORMER             | *4 J0B3955A0001                   |
| X0702    | VLF1431      | TRANSFORMER             | *4 J0B4055A0001                   |
| X0704    | VLF1493      | FILTER                  | *1,*2                             |
| X0704    | VLF1495      | FILTER                  | *3                                |
| X0704    | VLF1497      | TRANSFORMER             | *4                                |
| X3001    | VSX0162      | CRYSTAL OSCILLATOR      |                                   |
| X6001    | VSX1022      | CRYSTAL OSCILLATOR      |                                   |
| X6002    | H0H200500011 | CRYSTAL OSCILLATOR      | [MAVD]                            |
| X7301    | VSX1086      | CRYSTAL OSCILLATOR      | [MAVD] *1                         |
| X7302    | H0D245500016 | CRYSTAL OSCILLATOR      | [MAVD] *2,*3,*4                   |
|          |              |                         |                                   |
|          |              | MISCELLANEOUS           |                                   |
|          | EYF52BC      | FUSE HOLDER             | K3GD9BB00001                      |
|          | EYF52BC      | FUSE HOLDER             | K3GD9BB00001                      |
|          | VSC4998      | HA ANGLE                |                                   |
|          | VMP4894      | SUPPORT ANGLE           | FOR DECODER C.B.A. *1             |
|          | VSC4752      | SHIELD CASE (MAIN)      | FOR NICAM DECODER C.B.A. *2,*3,*4 |
|          | VMP5897      | CONNECTING ANGLE        | FOR TV DEMODULATOR C.B.A.         |
|          |              |                         |                                   |
|          |              |                         |                                   |
| ■        | -----        | CYLINDER STATOR C.B.A.  |                                   |
|          |              |                         |                                   |
|          |              | MISCELLANEOUS           |                                   |
|          | VJS3537F009G | CONNECTOR (FEMALE) 9P   | K1MN09B00039                      |
|          | HW-300A-DF   | HALL IC                 | B4AAB0000007                      |

## 12. Schematic Diagram for printing with A4 size



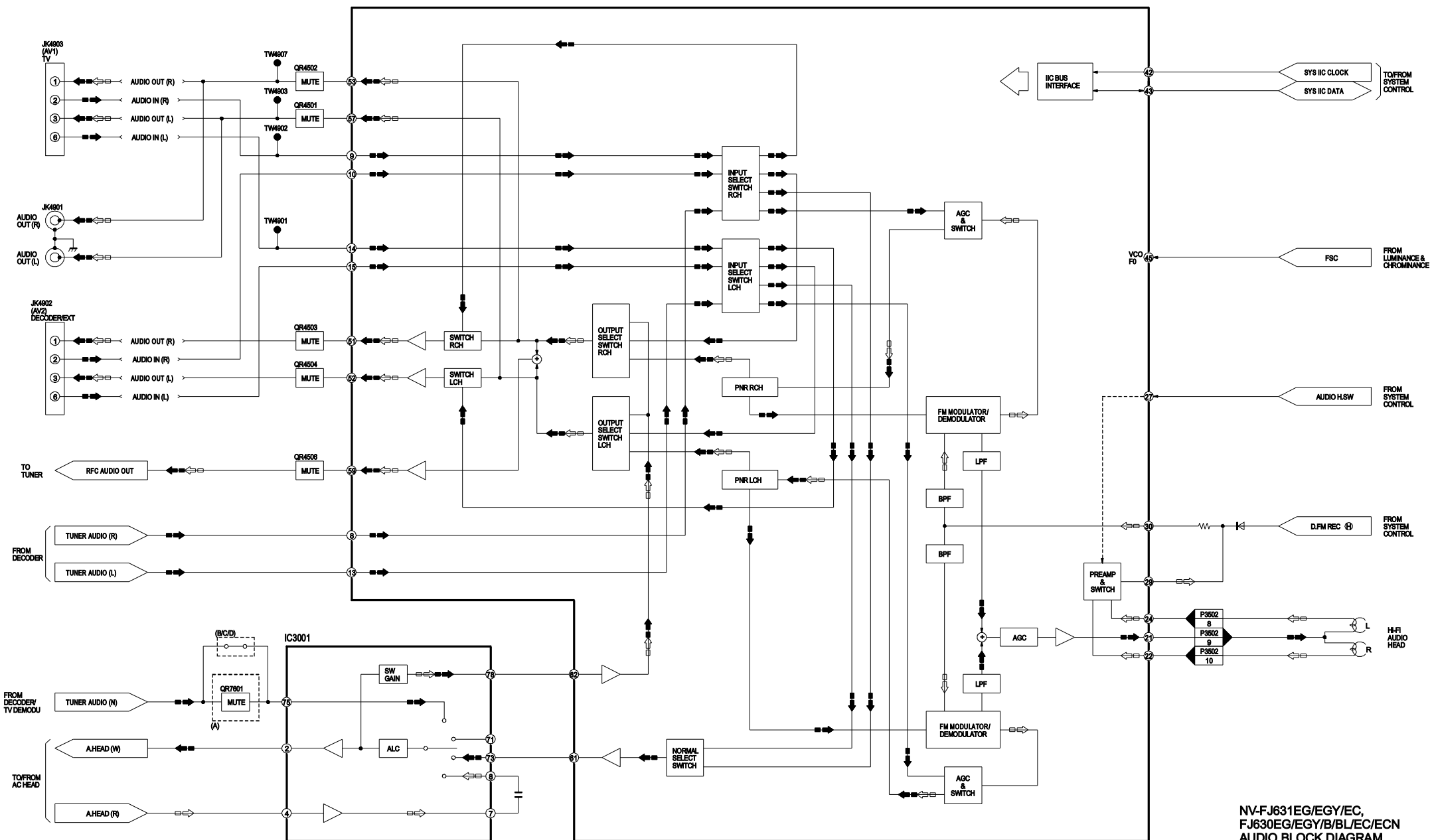


**NV-FJ631EG/EGY/EC,FJ630EG/EGY/B/BL/EC/ECN  
LUMINANCE & CHROMINANCE BLOCK DIAGRAM**



◀ ■ MAIN SIGNAL PATH IN REC MODE

◀ □ MAIN SIGNAL PATH IN PLAYBACK MODE



NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
AUDIO BLOCK DIAGRAM



**F**

THE STRIPED FRAME INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.  
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

**HOT**

# E

D

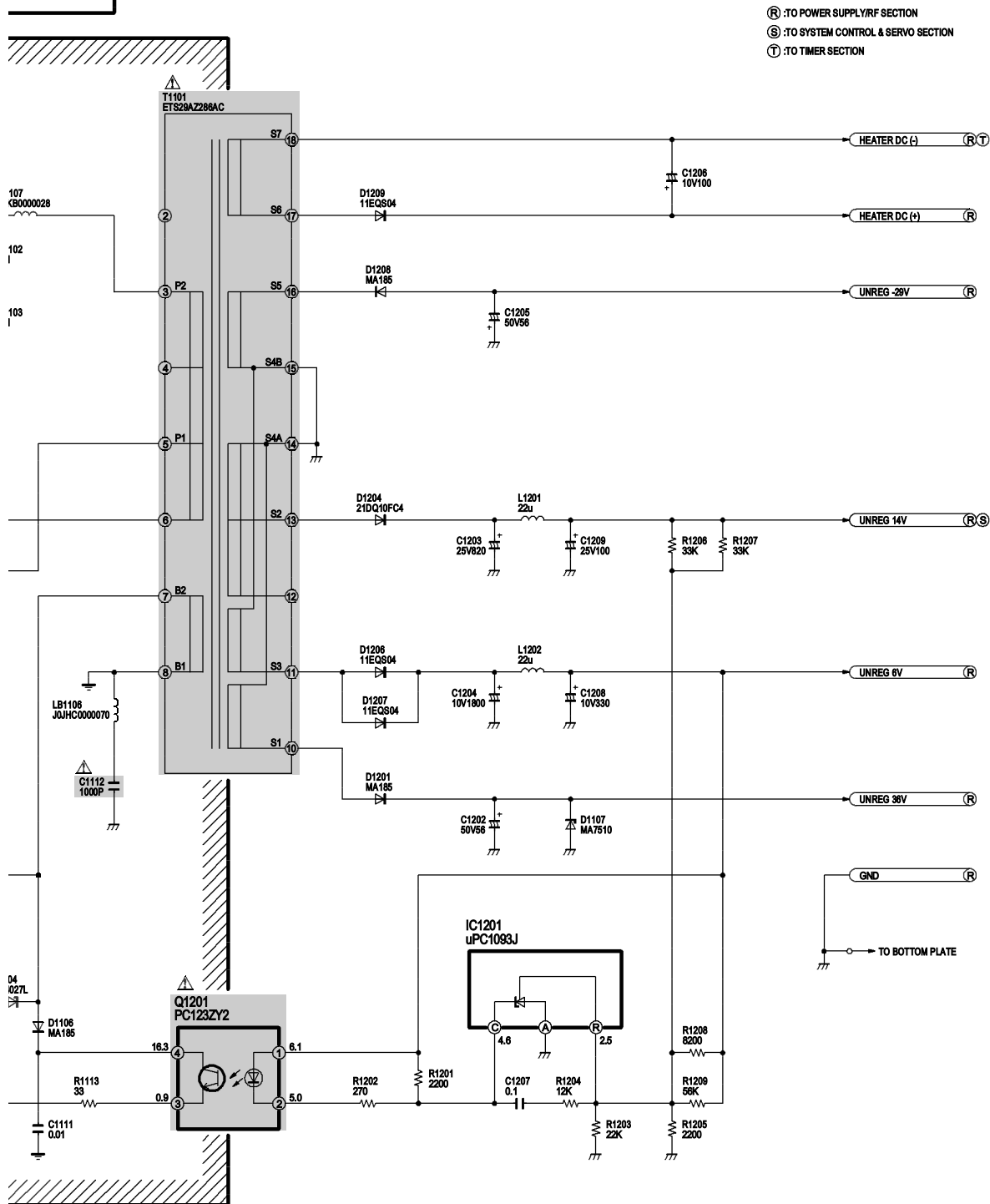
C

**B**

A



# PRIMARY SERVICE OF



IE POWER TRANSFORMER  
NT AS FOLLOWS.

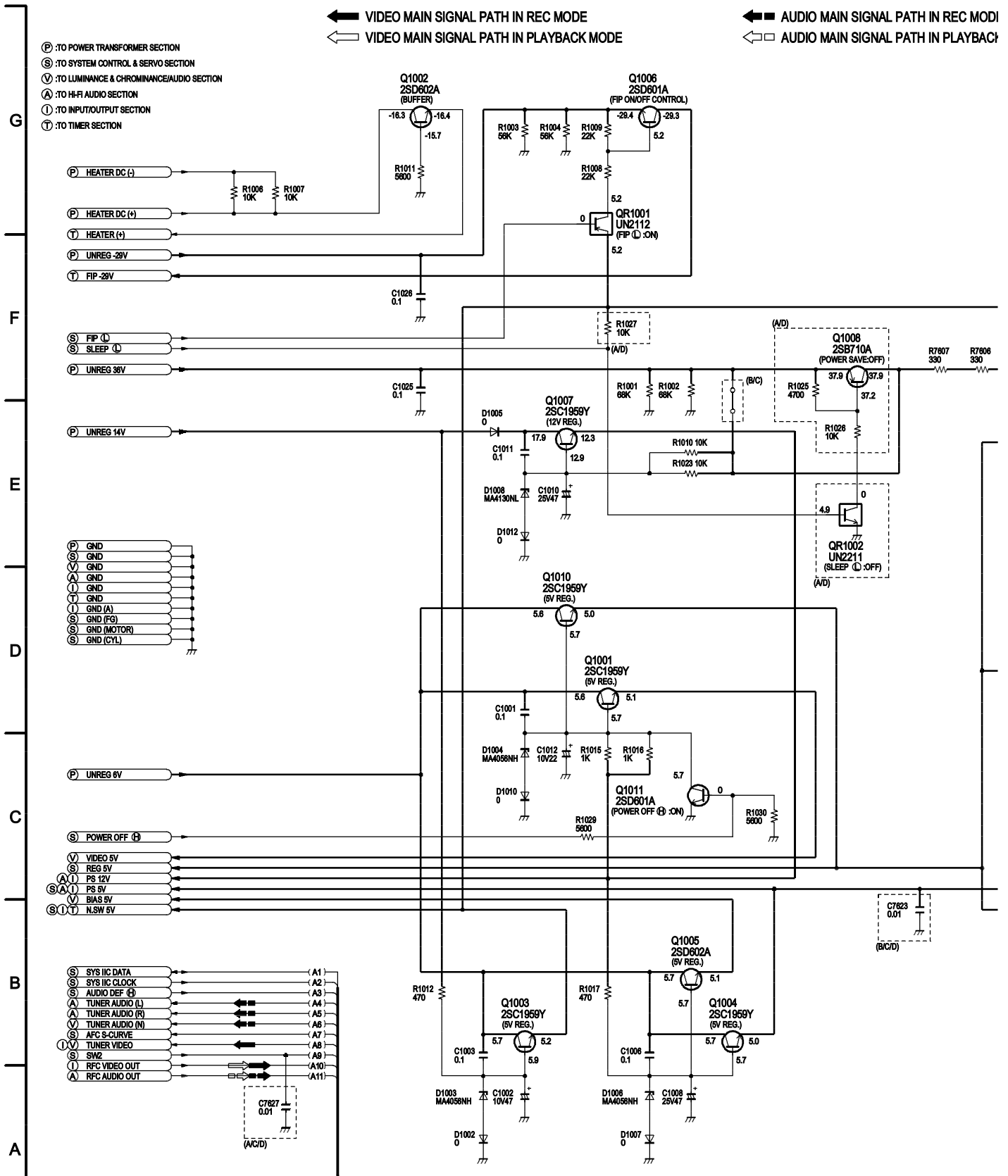
AWN THE VOLTAGE WHEN

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR  
ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.  
NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
POWER TRANSFORMER  
SECTION SCHEMATIC DIAGRAM

|   |   |   |   |    |
|---|---|---|---|----|
| 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|----|

## 8.2. POWER SUPPLY/ RF SECTION IN MAIN SCHEMATIC DIAGRAM

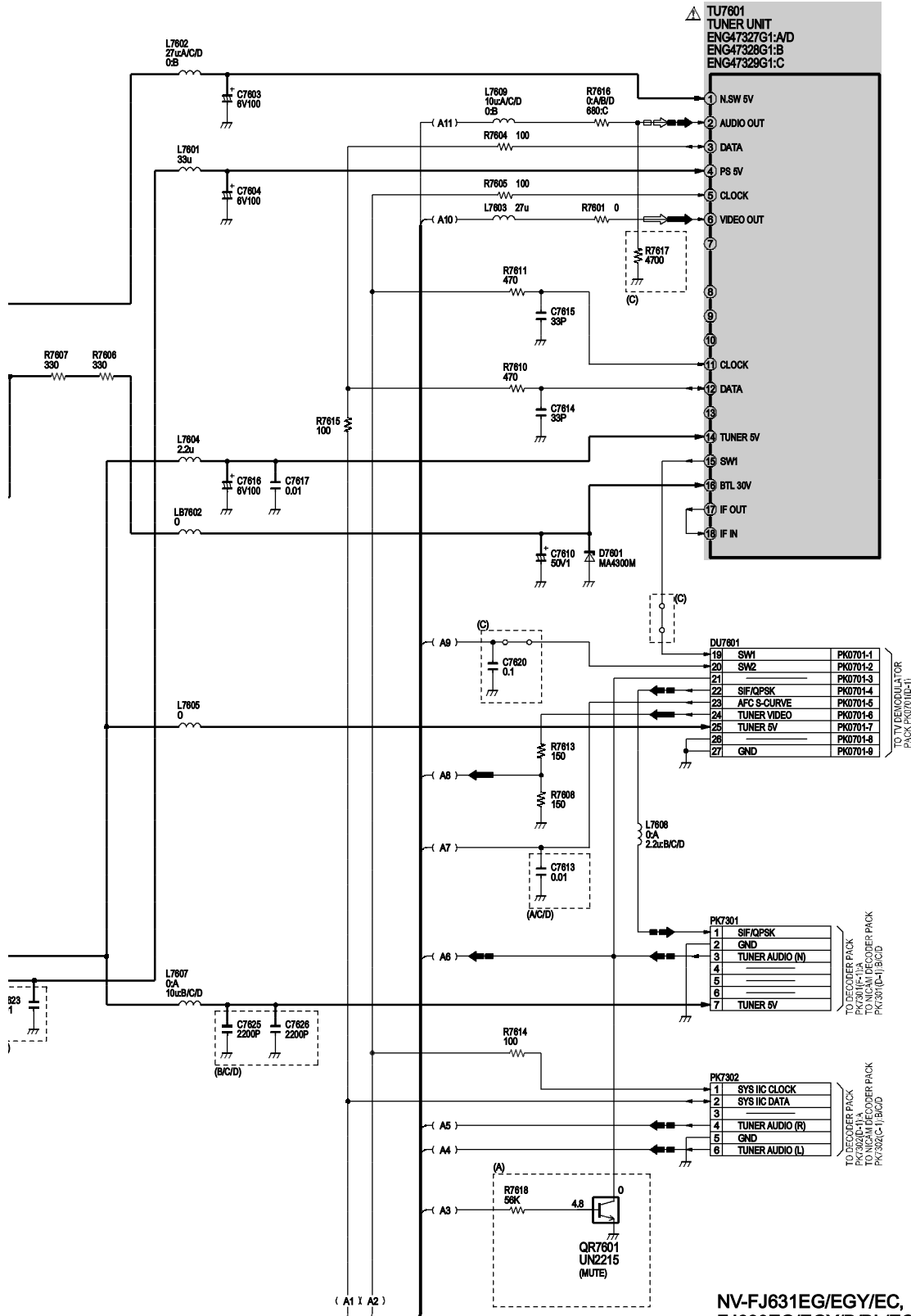


IMPORTANT SAFETY NOTICE:  
 COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.  
 WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

PATH IN REC MODE

PATH IN PLAYBACK MODE



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
POWER SUPPLY/RF SECTION  
SCHEMATIC DIAGRAM

TOP MODE

6

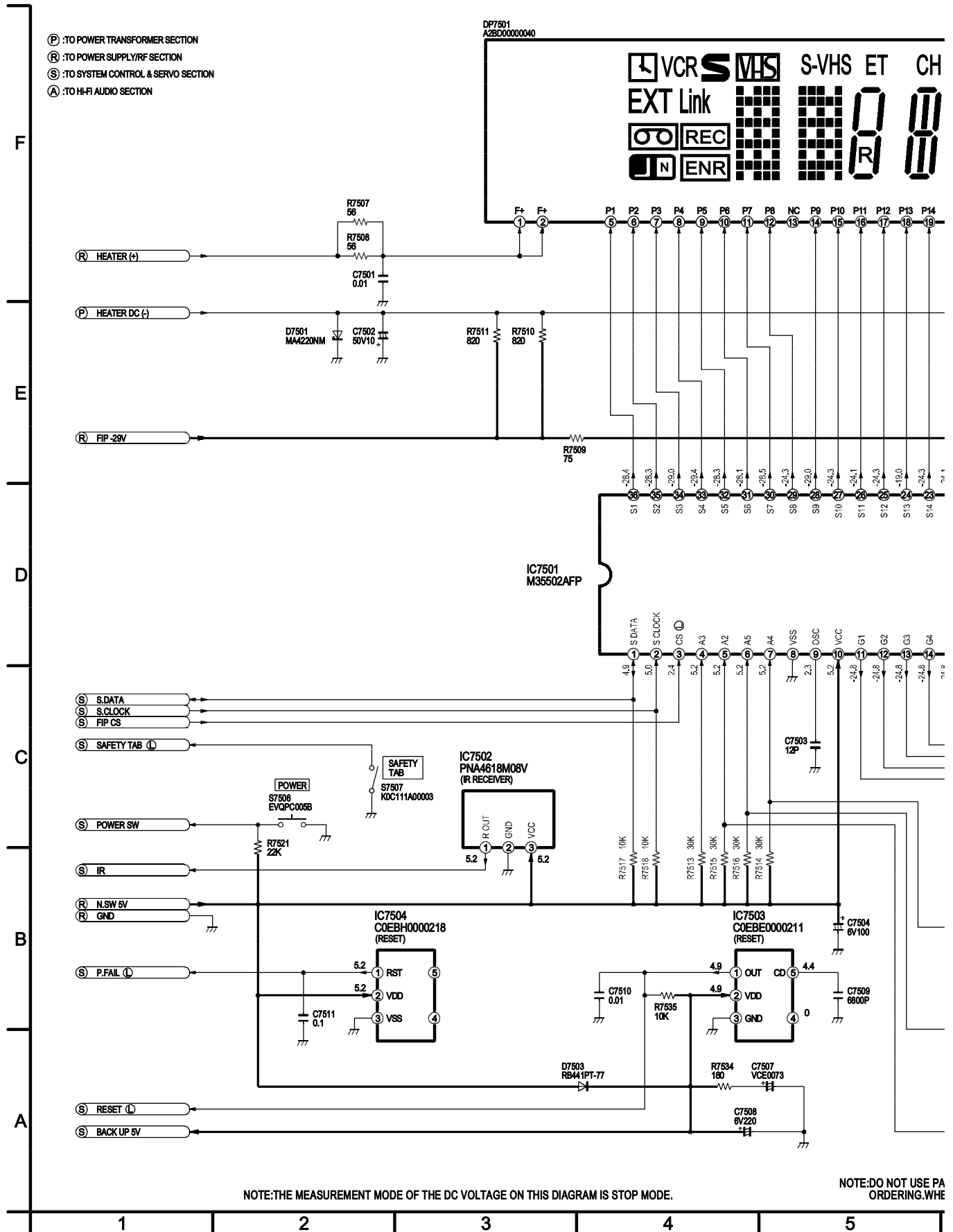
7

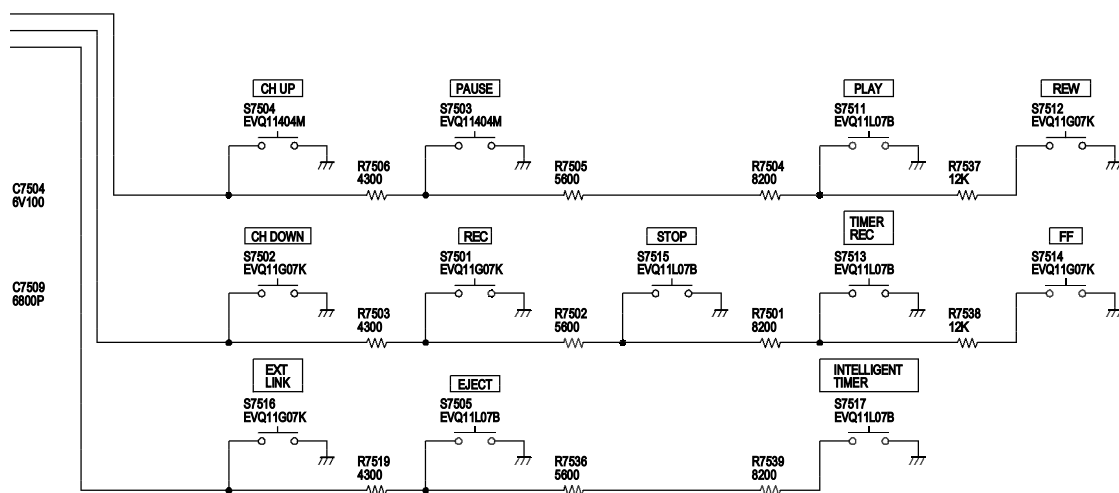
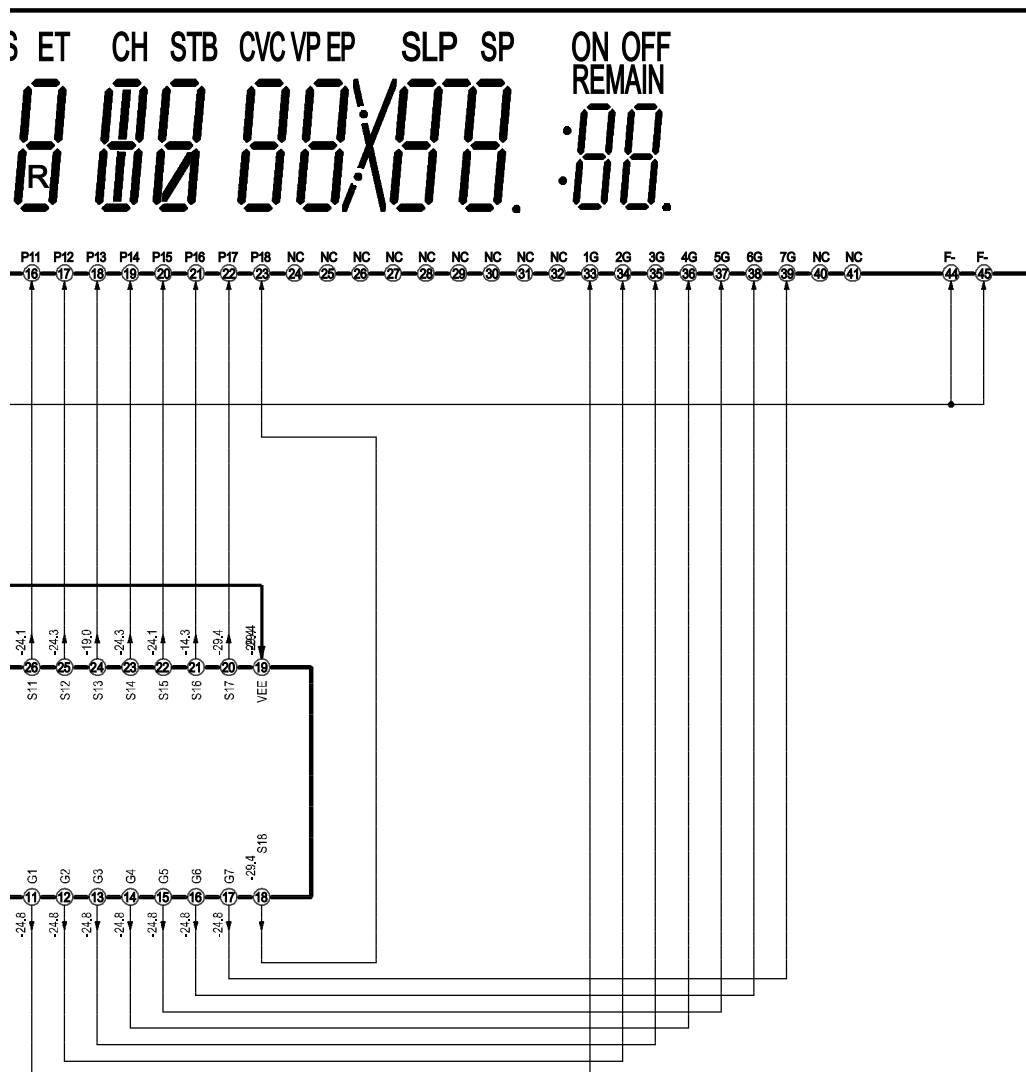
8

9

10

### 8.3. TIMER SECTION IN MAIN SCHEMATIC DIAGRAM



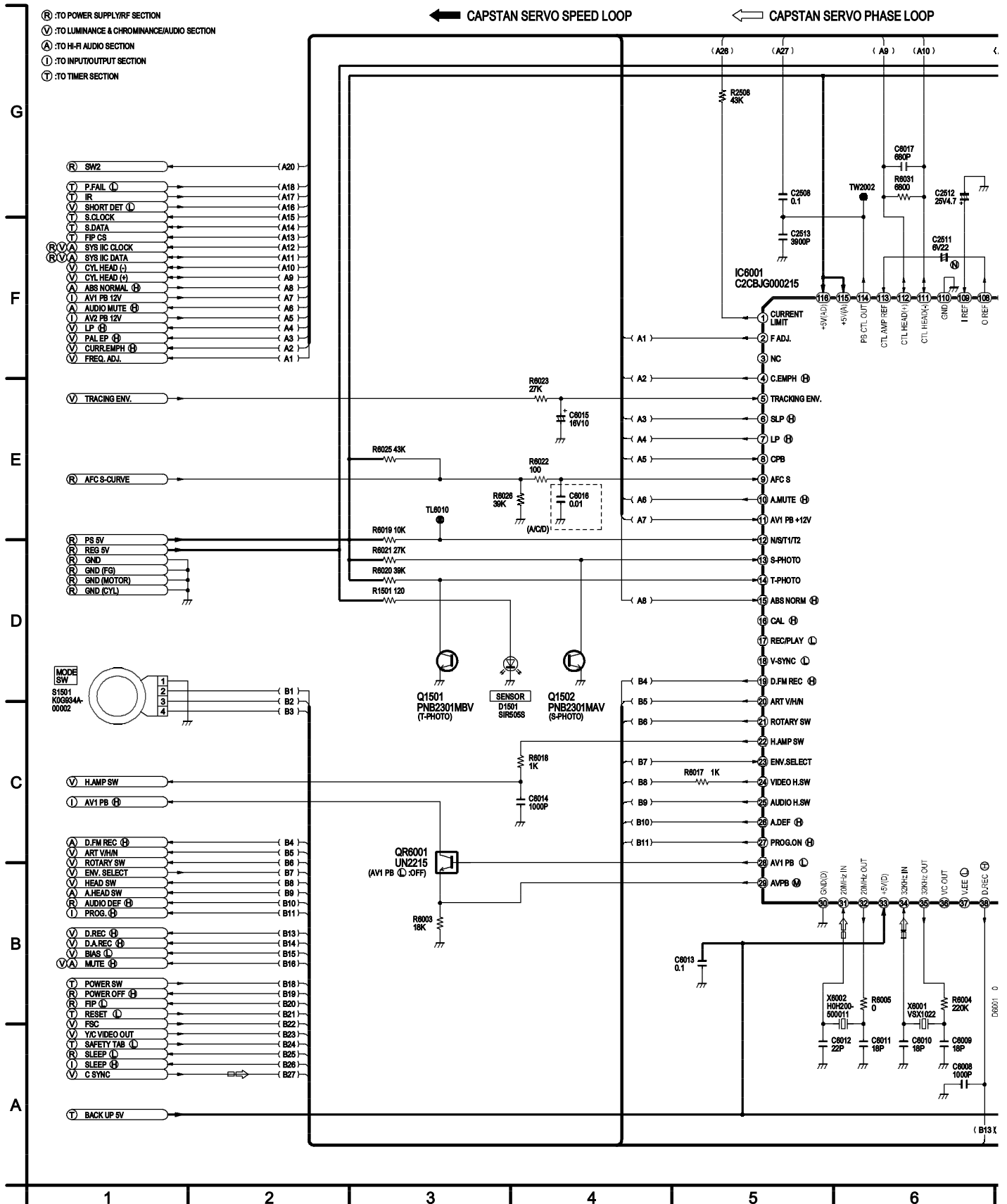


NOTE: DO NOT USE PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
TIMER SECTION SCHEMATIC DIAGRAM

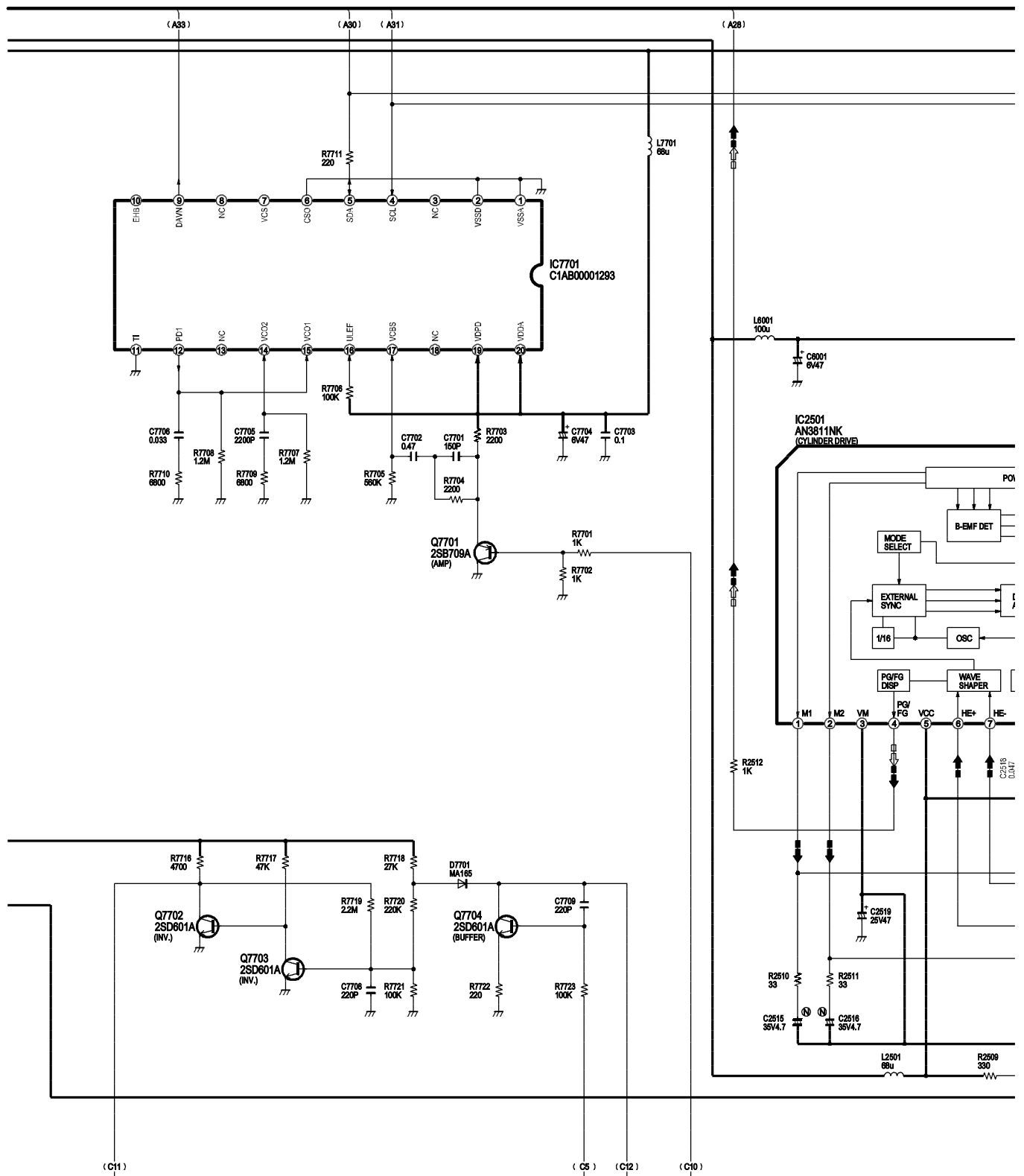
5 | 6 | 7 | 8 | 9

## 8.4. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM



CYLINDER SERVO PHASE LOOP





NV-FJ631EG/EGY/EC,FJ630EG/EGY/B/BL/EC/ECN  
SYSTEM CONTROL & SERVO SECTION SCHEMATIC DIAGRAM

NOTE:DO NOT USE ANY PART NUMBER  
ORDERING.WHEN YOU ORDER A I

12

13

14

15

16

17



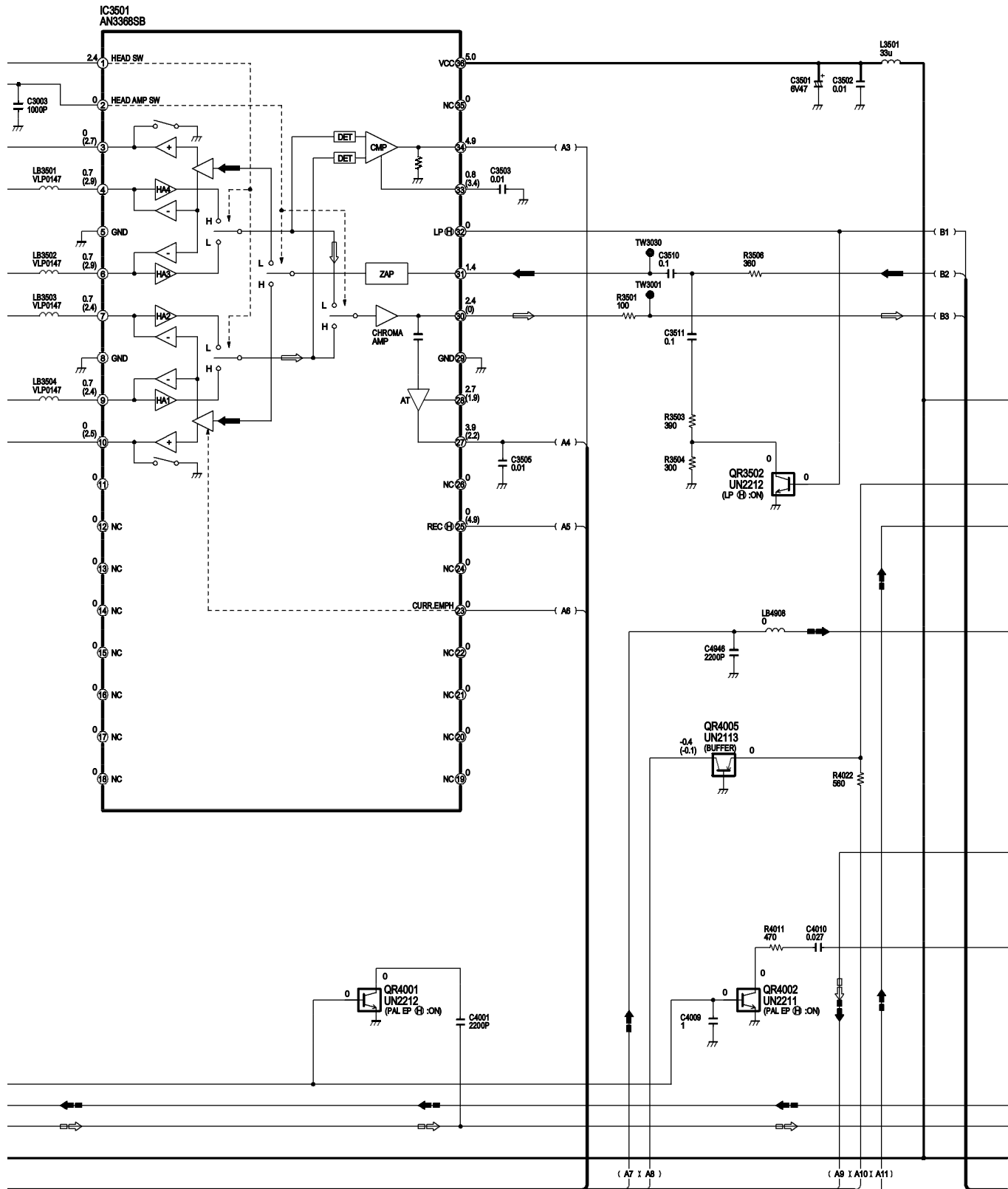


# DIAGRAM

ODE

◀▶ AUDIO MAIN SIGNAL PATH IN REC MODE

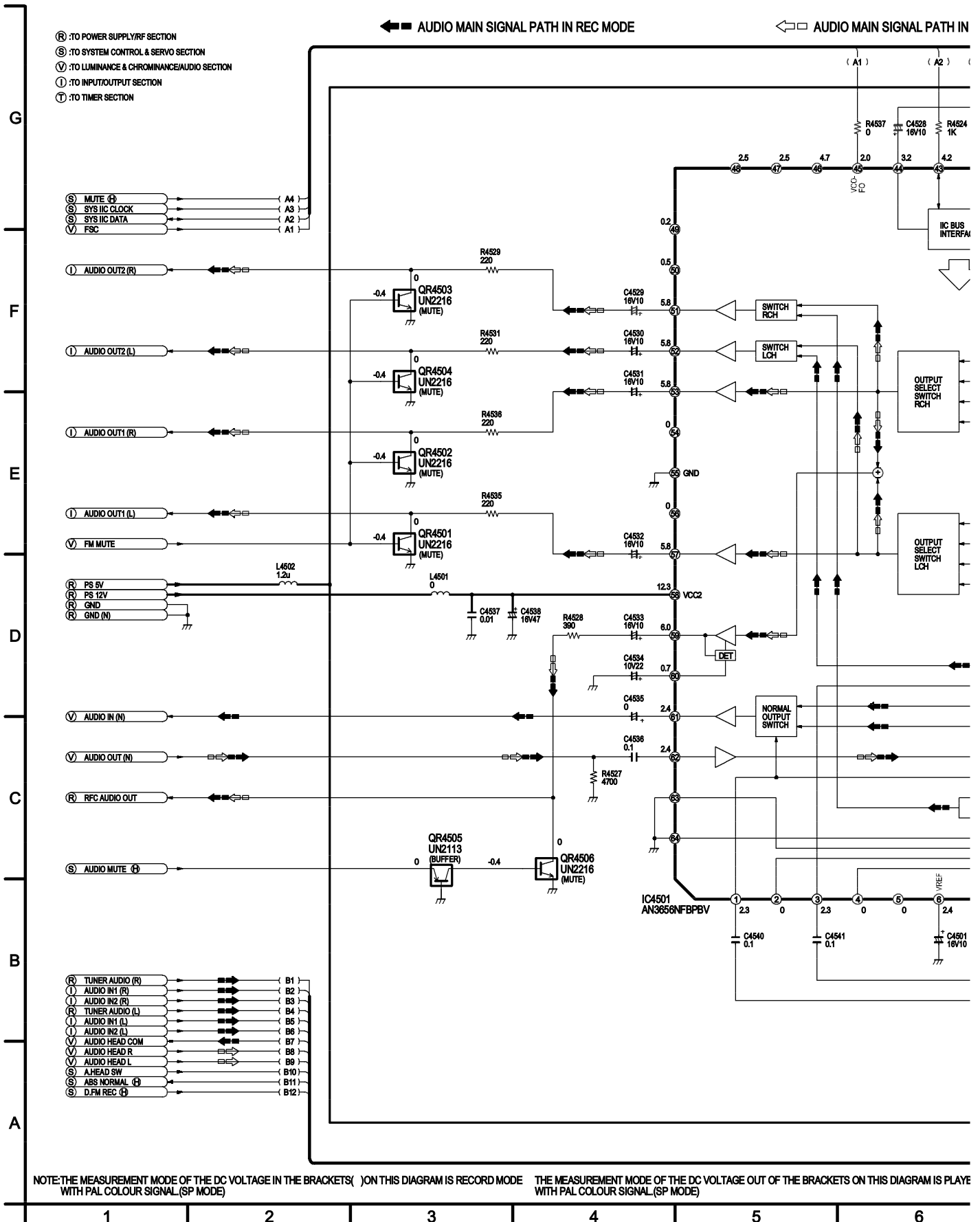
◀▶ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



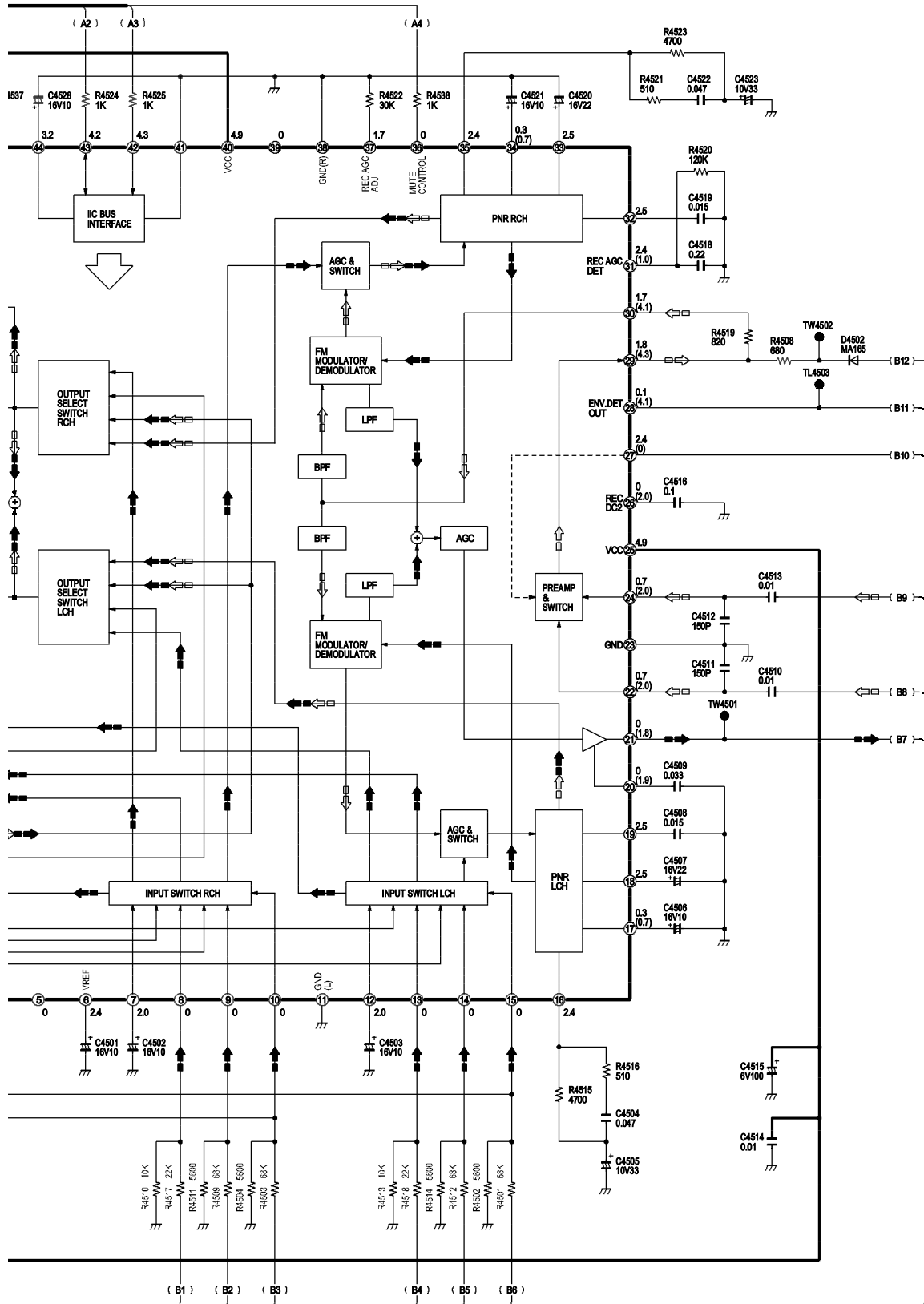




## 8.6. HI-FI AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

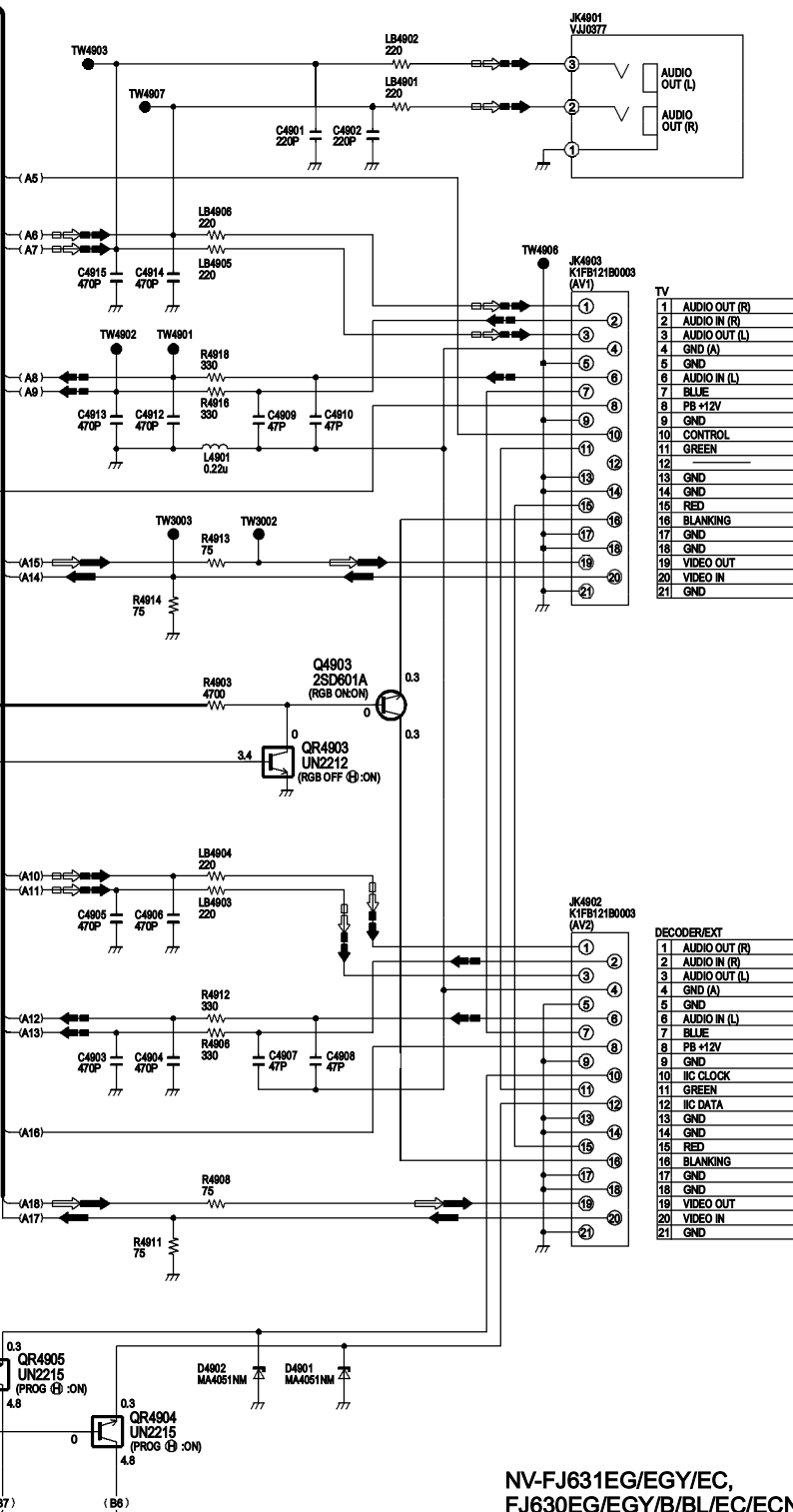
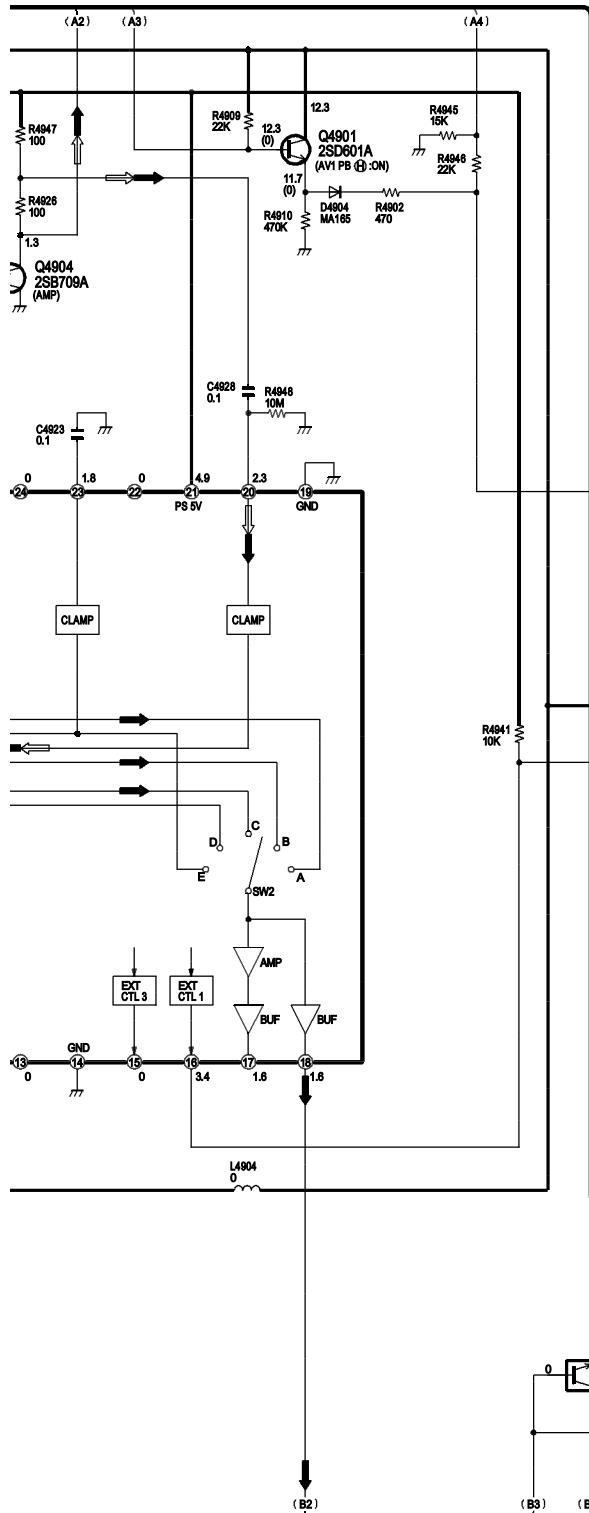


# N SIGNAL PATH IN PLAYBACK MODE





MODE      ◀◀ AUDIO MAIN SIGNAL PATH IN REC MODE      ◀◻ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



RACKETS ON THIS DIAGRAM IS PLAYBACK MODE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

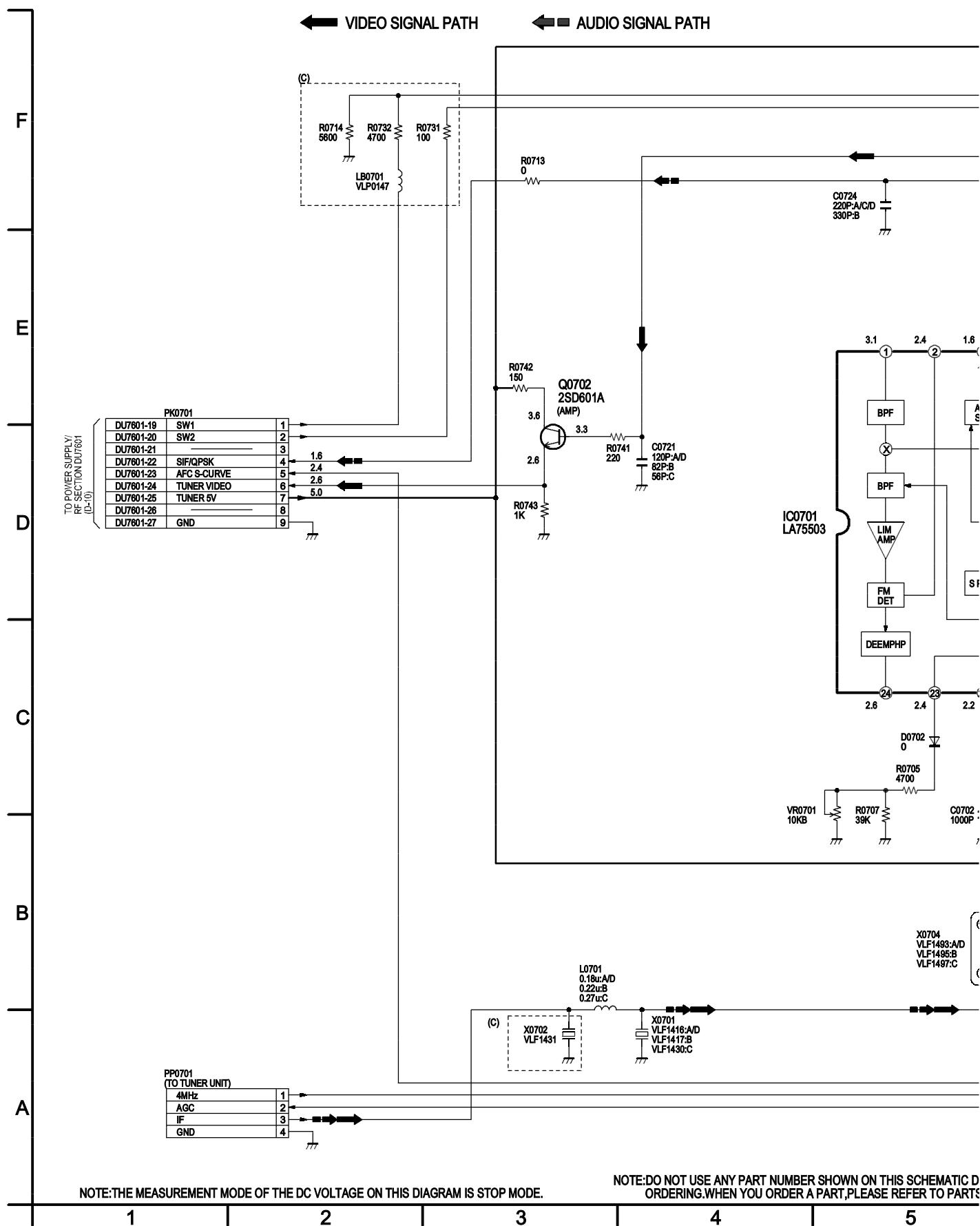
NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
INPUT/OUTPUT SECTION  
SCHEMATIC DIAGRAM

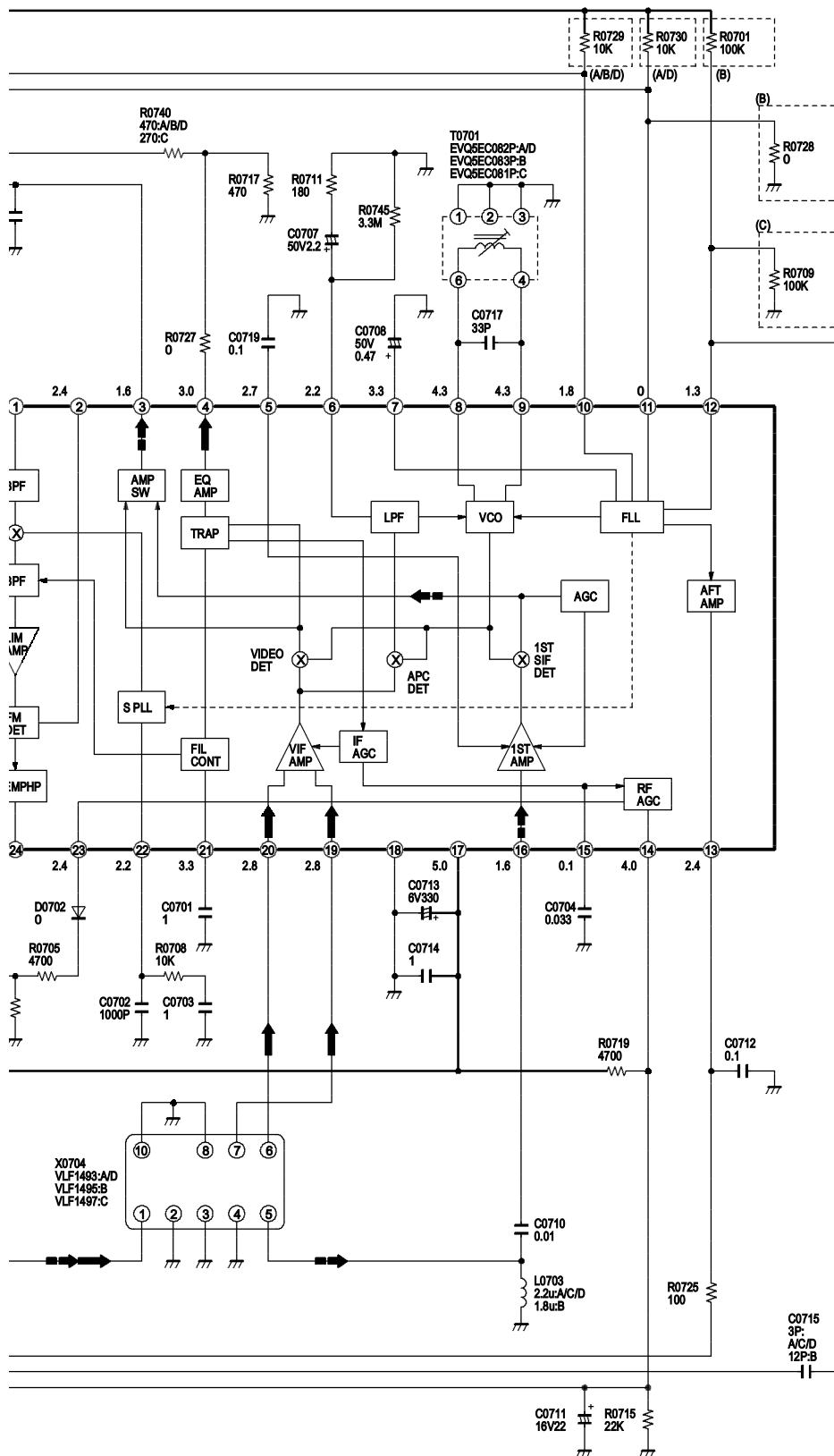
6      7      8      9      10      11

|    |    |               |
|----|----|---------------|
| TV | 1  | AUDIO OUT (R) |
|    | 2  | AUDIO IN (R)  |
|    | 3  | AUDIO OUT (L) |
|    | 4  | GND (A)       |
|    | 5  | GND           |
|    | 6  | AUDIO IN (L)  |
|    | 7  | BLUE          |
|    | 8  | PB +12V       |
|    | 9  | GND           |
|    | 10 | CONTROL       |
|    | 11 | GREEN         |
|    | 12 | GND           |
|    | 13 | GND           |
|    | 14 | GND           |
|    | 15 | RED           |
|    | 16 | BLANKING      |
|    | 17 | GND           |
|    | 18 | GND           |
|    | 19 | VIDEO OUT     |
|    | 20 | VIDEO IN      |
|    | 21 | GND           |

|             |    |               |
|-------------|----|---------------|
| DECODEX/EXT | 1  | AUDIO OUT (R) |
|             | 2  | AUDIO IN (R)  |
|             | 3  | AUDIO OUT (L) |
|             | 4  | GND (A)       |
|             | 5  | GND           |
|             | 6  | AUDIO IN (L)  |
|             | 7  | BLUE          |
|             | 8  | PB +12V       |
|             | 9  | GND           |
|             | 10 | IIC CLOCK     |
|             | 11 | GREEN         |
|             | 12 | IIC DATA      |
|             | 13 | GND           |
|             | 14 | GND           |
|             | 15 | RED           |
|             | 16 | BLANKING      |
|             | 17 | GND           |
|             | 18 | GND           |
|             | 19 | VIDEO OUT     |
|             | 20 | VIDEO IN      |
|             | 21 | GND           |

## 8.8. TV DEMODULATOR PACK SCHEMATIC DIAGRAM



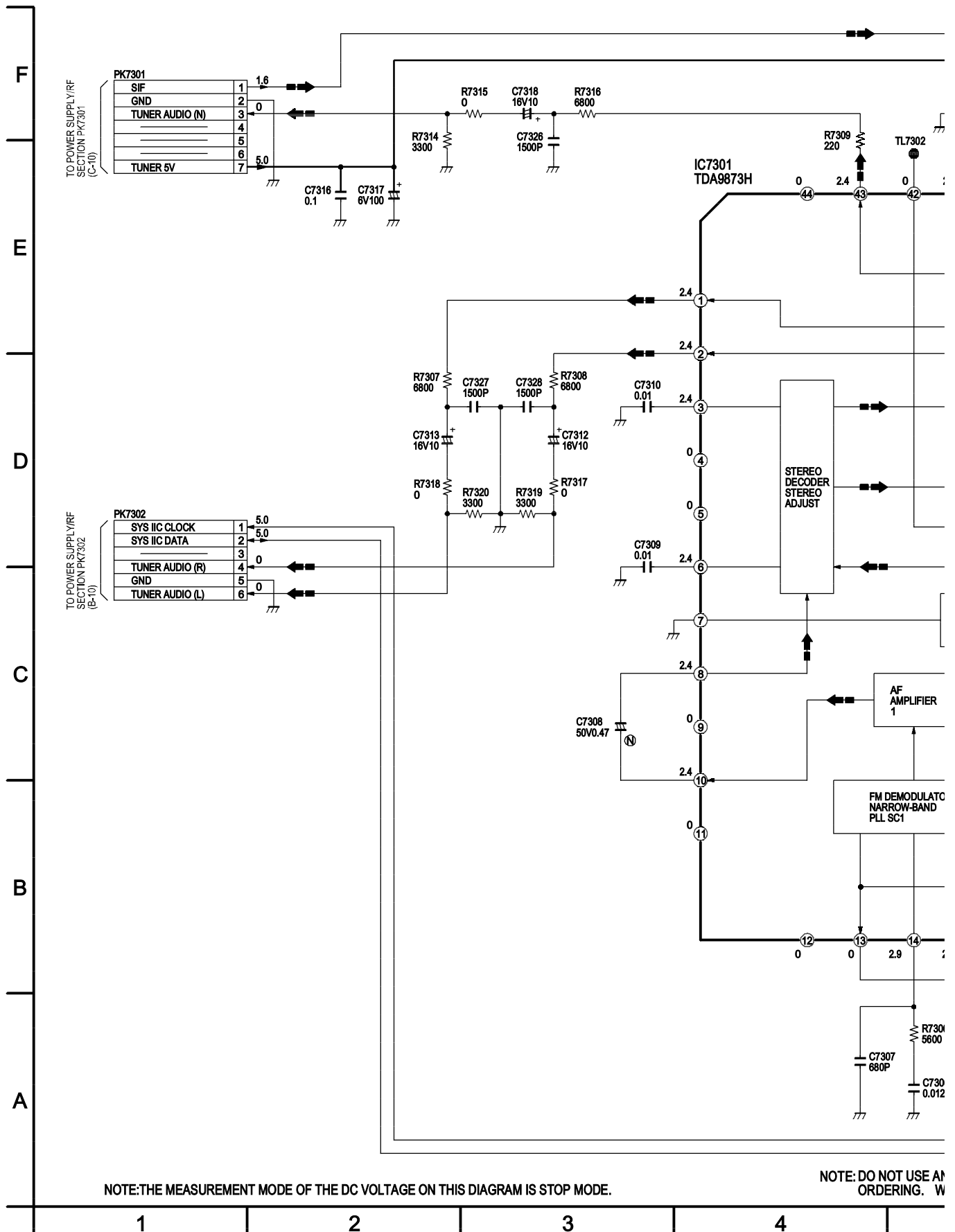


THIS SCHEMATIC DIAGRAM FOR  
E REFER TO PARTS LIST.

NV-FJ631EG/EGY/EC,FJ630EG/EGY/B/BL/EC/ECN  
TV DEMODULATOR PACK SCHEMATIC DIAGRAM

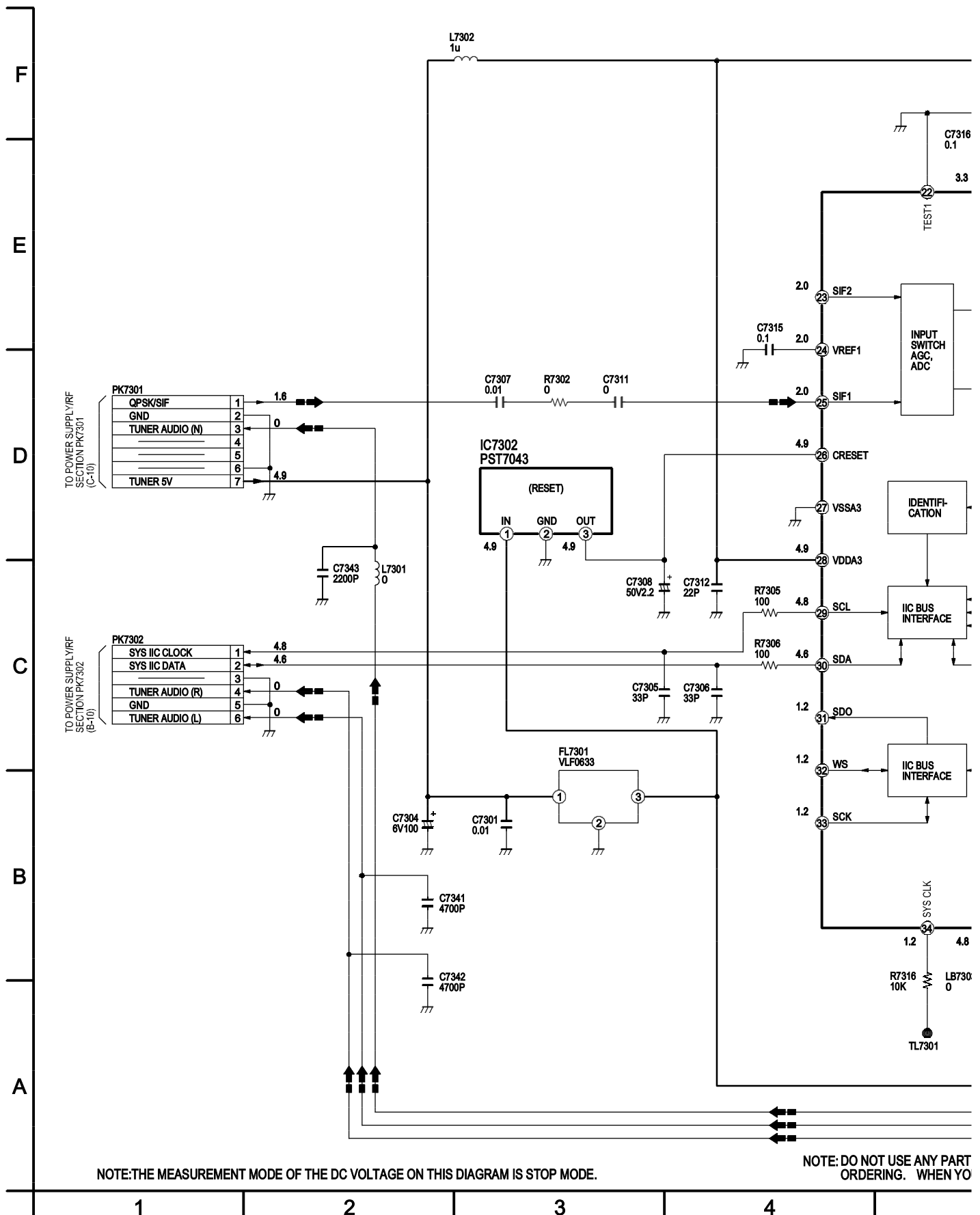
5 | 6 | 7 | 8

## 8.9. DECODER PACK SCHEMATIC DIAGRAM (EG/EGY)



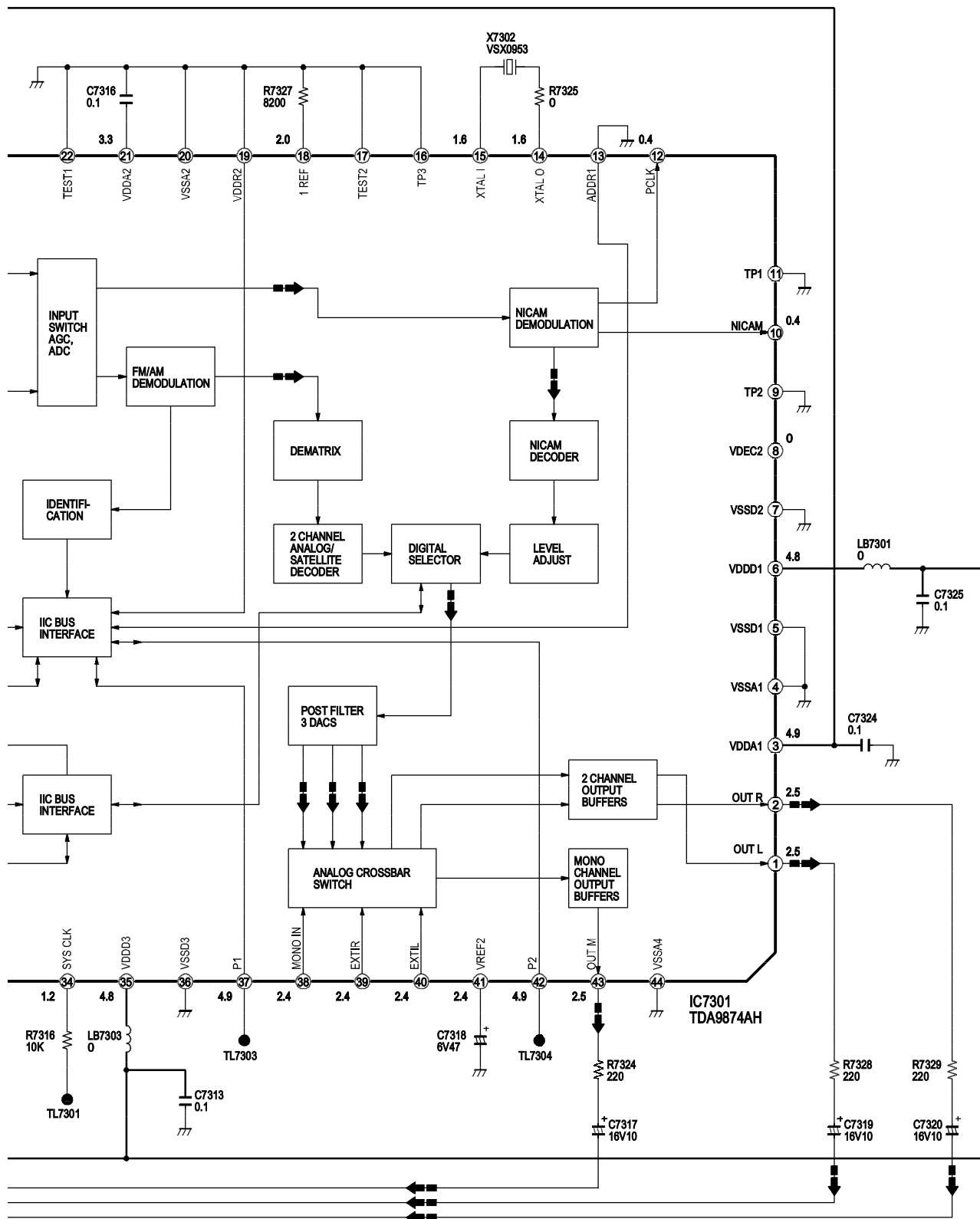


## 8.10. NICAM DECODER PACK SCHEMATIC DIAGRAM (B/BL/EC/ECN)





← AUDIO SIGNAL PATH



DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NV-FJ631EC, FJ630B/BL/EC/ECN  
NICAM DECODER PACK SCHEMATIC DIAGRAM

5

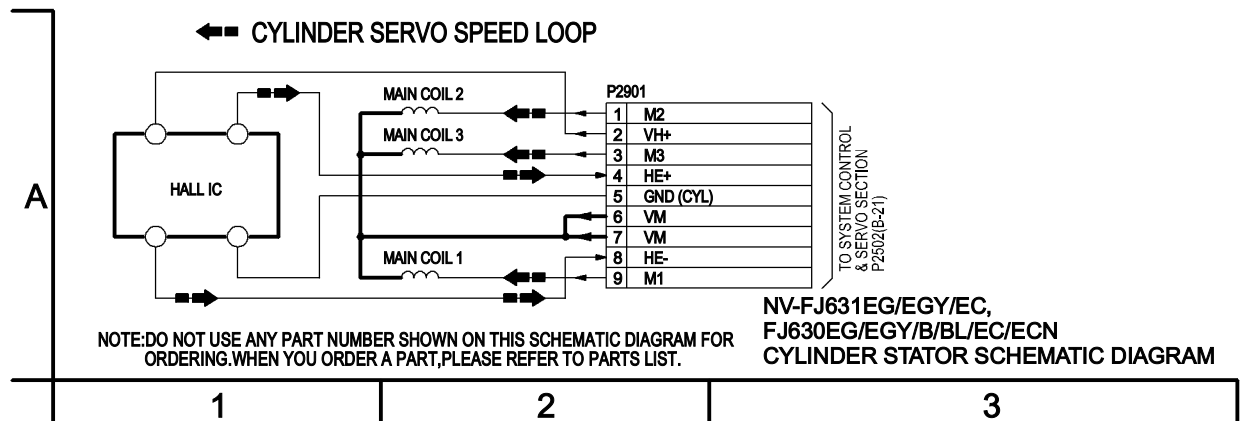
6

7

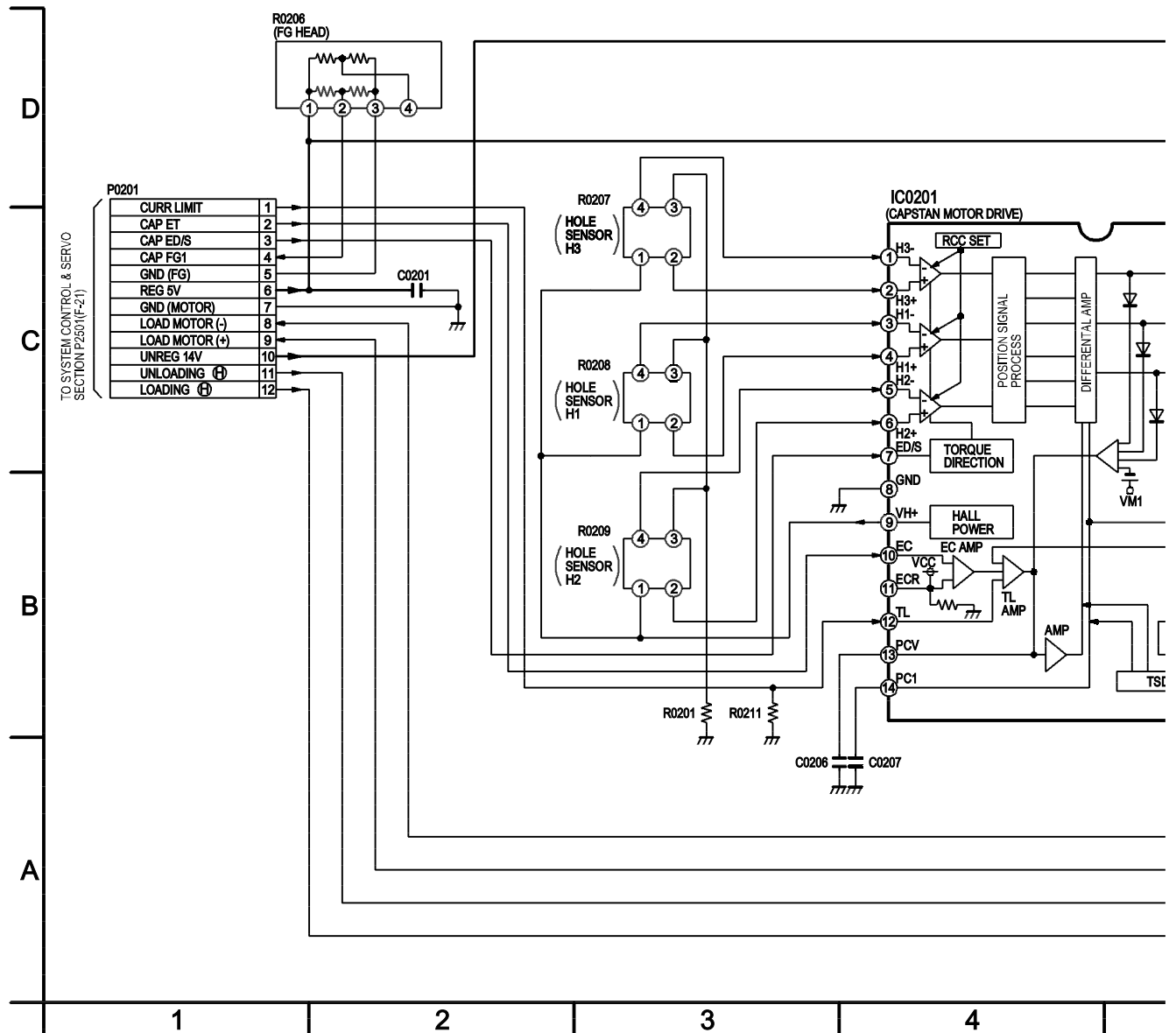
8

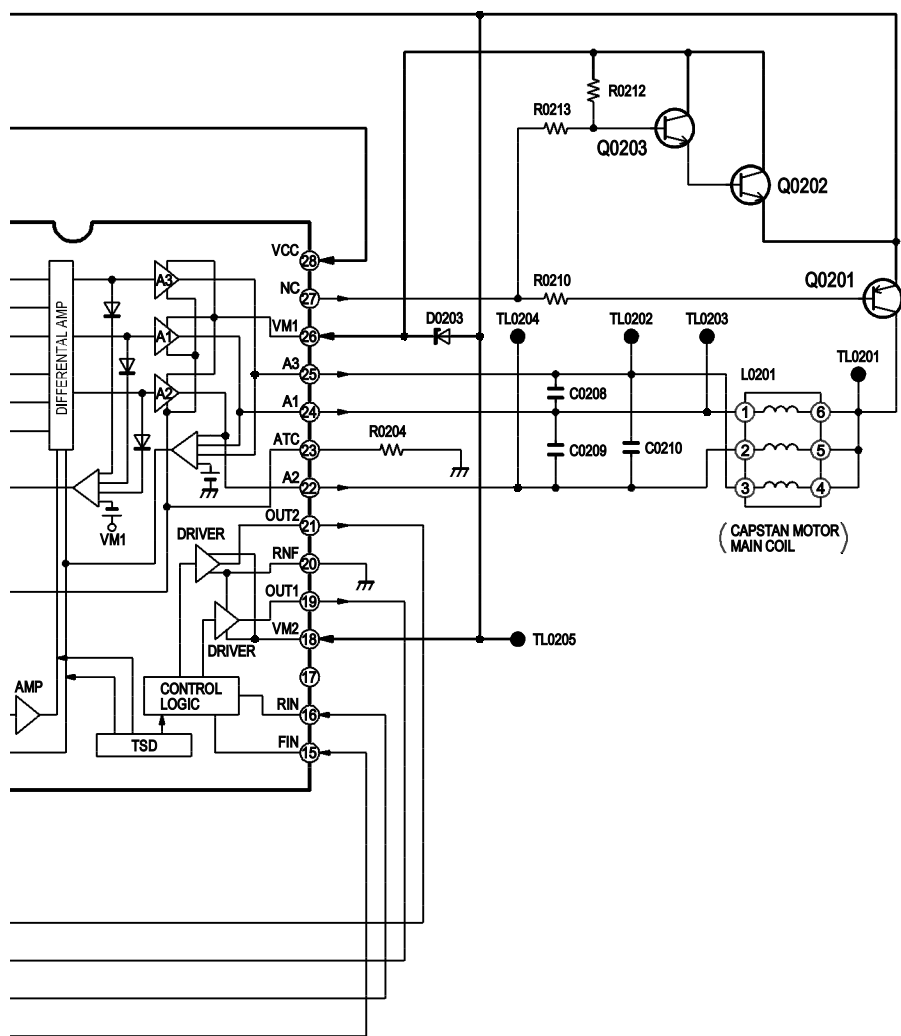


## 8.11. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM

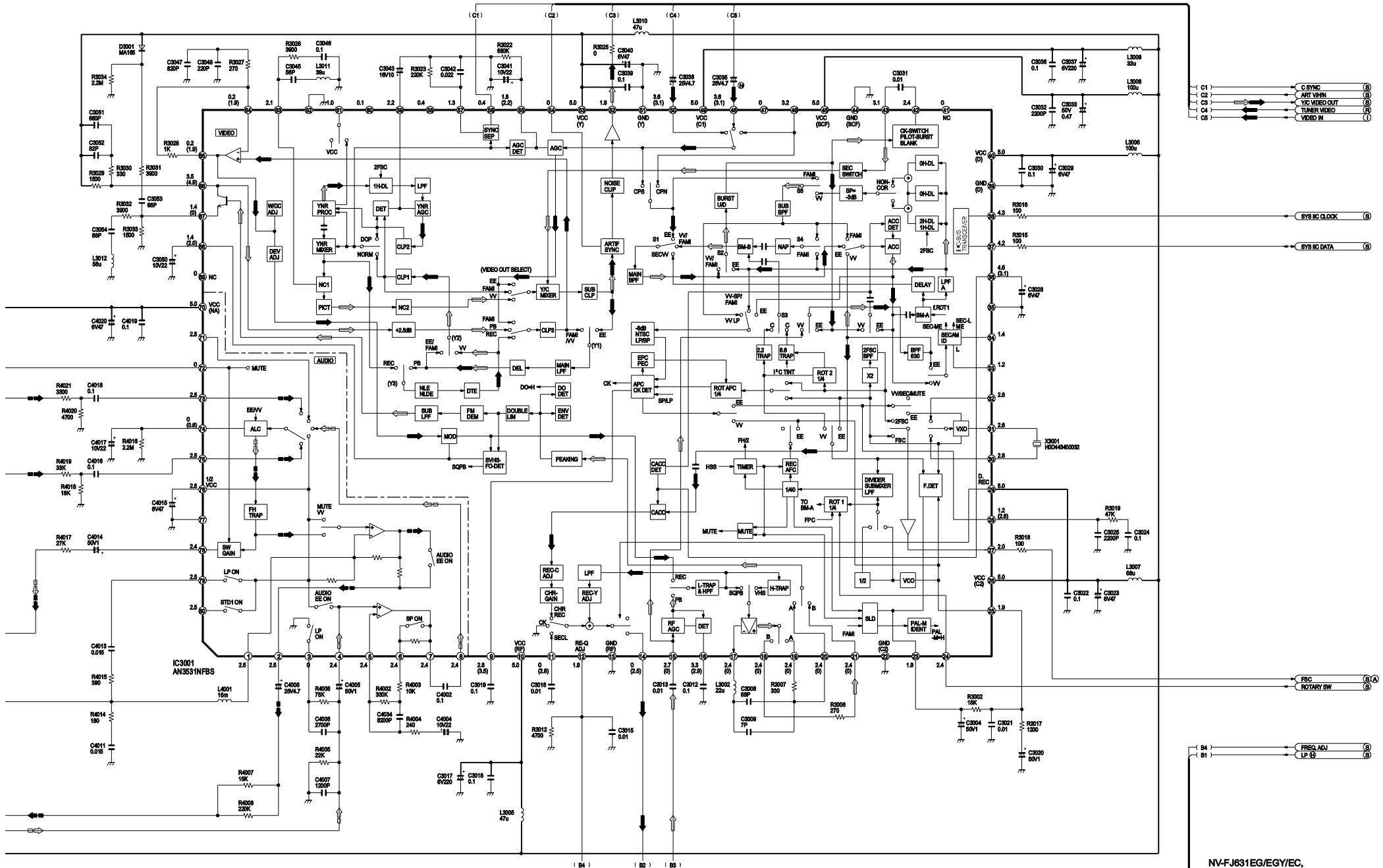


## 8.12. CAPSTAN UNIT SCHEMATIC DIAGRAM





NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
CAPSTAN UNIT SCHEMATIC DIAGRAM

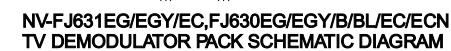


NV-FJ631EG/EGY/EC, FJ630EG/EGY/B/BL/EC/ECN  
LUMINANCE & CHROMINANCE/AUDIO SECTION SCHEMATIC DIAGRAM

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
LUMINANCE & CHROMINANCE/AUDIO  
SECTION SCHEMATIC DIAGRAM





**IMPORTANT SAFETY NOTICE:**

COMPONENTS IDENTIFIED WITH THE MARK  $\Delta$  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

**CAUTION**

THE STRIPED FRAME INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.  
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

| MAIN C.B.A.                      |     |                    |     |
|----------------------------------|-----|--------------------|-----|
| Transistor                       |     | Integrated Circuit |     |
| Q1001                            | E-2 | IC1201             | B-1 |
| Q1002                            | A-2 | IC1501             | B-4 |
| Q1003                            | A-1 | IC1502             | B-6 |
| Q1004                            | B-2 | IC2501             | F-2 |
| Q1005                            | B-2 | IC3001             | C-6 |
| Q1006                            | A-2 | IC3501             | E-5 |
| Q1007                            | E-2 | IC4501             | E-6 |
| Q1008                            | B-2 | IC4901             | E-4 |
| Q1010                            | E-2 | IC6001             | C-3 |
| Q1011                            | E-3 | IC7501             | A-5 |
| Q1101                            | C-1 | IC7502             | A-6 |
| Q1102                            | D-1 | IC7503             | B-4 |
| Q1103                            | D-1 | IC7504             | B-4 |
| Q1104                            | D-1 | IC7701             | B-5 |
| Q1201                            | C-2 | IC7702             | A-7 |
| Q1501                            | C-2 | <b>Test Point</b>  |     |
| Q1502                            | C-7 | TL2502             | D-3 |
| Q4001                            | D-6 | TL2503             | C-3 |
| Q4002                            | D-6 | TL4503             | D-5 |
| Q4005                            | E-7 | TL6010             | B-3 |
| Q4006                            | F-7 | TL6012             | B-4 |
| Q4901                            | F-3 | TL6013             | B-6 |
| Q4903                            | F-3 | TW2001             | F-4 |
| Q4904                            | E-4 | TW2002             | F-2 |
| Q7701                            | B-4 | TW2015             | F-2 |
| Q7702                            | C-4 | TW3001             | F-4 |
| Q7703                            | C-4 | TW3002             | F-4 |
| Q7704                            | D-4 | TW3003             | F-4 |
| <b>Transistor &amp; Resistor</b> |     | TW3030             | F-4 |
| QR1001                           | A-3 | TW4501             | F-5 |
| QR1002                           | B-2 | TW4502             | F-5 |
| QR3502                           | D-5 | TW4901             | F-5 |
| QR4001                           | D-6 | TW4902             | F-5 |
| QR4002                           | D-6 | TW4903             | F-6 |
| QR4003                           | D-6 | TW4906             | F-3 |
| QR4005                           | C-7 | TW4907             | F-5 |
| QR4501                           | E-7 | TW6002             | F-3 |
| QR4502                           | E-6 | <b>Connector</b>   |     |
| QR4503                           | E-7 | P1102              | F-1 |
| QR4504                           | E-7 | P1501              | E-4 |
| QR4505                           | E-8 | P2501              | C-3 |
| QR4506                           | F-8 | P2502              | F-2 |
| QR4903                           | F-3 | P3502              | E-5 |
| QR4904                           | F-3 | P4002              | D-7 |
| QR4905                           | F-3 | P4003              | F-7 |
| QR6001                           | B-3 | DU7601             | D-8 |
| QR6006                           | B-2 | PK7301             | C-8 |
| QR7601                           | C-8 | PK7302             | B-8 |
|                                  |     | TU7601             | F-8 |

ADDRESS INFORMATION

| No. | Port Name        | I/O | Description                                                                                                                                                                                                                        | P-OFF   | P-Save | P-FAIL | Reset  |
|-----|------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|--------|--------|
| 51  | LC.OSC OUT       | O   | The oscillation output terminal for OSD dot clock.                                                                                                                                                                                 | ---     | ---    | ---    | ---    |
| 52  | RESET(L)         | I   | Input terminal for microprocessor reset.                                                                                                                                                                                           | In      | In     | In     | In     |
| 53  | 4FC.LPF          | I   | 4fc clock input terminal                                                                                                                                                                                                           | ---     | ---    | ---    | ---    |
| 54  | OSD.FSC IN       | I   | OSD clock input terminal                                                                                                                                                                                                           | ---     | ---    | ---    | ---    |
| 55  | 5V(OSD)          | I   | 5V input terminal                                                                                                                                                                                                                  | ---     | ---    | ---    | ---    |
| 56  | CVIN             | I   | Input terminal for Composite video signal.                                                                                                                                                                                         | ---     | ---    | ---    | ---    |
| 57  | GND(OSD)         | I   | GND                                                                                                                                                                                                                                | ---     | ---    | ---    | ---    |
| 58  | LECHA            | I   | Input terminal for Composite video signal.(White level)                                                                                                                                                                            | ---     | ---    | ---    | ---    |
| 59  | 20M.START(H)     | I   | Switching terminal for starting Mode.(High speed/Low speed)                                                                                                                                                                        | ---     | ---    | ---    | ---    |
| 60  | MD0              | I   | Mode setting terminal for flash over-write.                                                                                                                                                                                        | ---     | ---    | ---    | ---    |
| 61  | CVOUT            | O   | Output terminal for CG Video.                                                                                                                                                                                                      | ---     | ---    | ---    | ---    |
| 62  | HLF              | O   | LPF connecting terminal for the slicer. (For OSD dot clock.)                                                                                                                                                                       | ---     | ---    | ---    | ---    |
| 63  | SECAM.V.IN       | I   | Chrominance input terminal for SECAM super impose.                                                                                                                                                                                 | ---     | ---    | ---    | ---    |
| 64  | GND              | I   | Connect to GND                                                                                                                                                                                                                     | In      | In     | In     | In     |
| 65  | S TAB(L)         | I   | Input terminal for the prevention tab.<br>[EXIST] :LOW [NO EXIST] :HIGH                                                                                                                                                            | In      | In     | In     | In     |
| 66  | UNLOADING(H)     | O   | Control terminal for loading motor.<br>[Reverse rotation / brake] : "High"                                                                                                                                                         | Low     | Low    | Low    | Low    |
| 67  | LOADING(H)       | O   | Control terminal for loading motor.<br>[forward rotation / brake] : "High"                                                                                                                                                         | Low     | Low    | Low    | Low    |
| 68  | C.SYNC           | I   | Input terminal for composite V-sync signal.                                                                                                                                                                                        | In      | In     | In     | In     |
| 69  | EX.FF/REW(L)     | I   | Filter control terminal for PB-CTL signal in FF/REW.                                                                                                                                                                               | Low     | Low    | Low    | Low    |
| 70  | PAL-IBG/DK(SYS4) | O   | Output terminal for TV broadcast system switching signal for video circuit control.                                                                                                                                                | Not fix | Low    | Low    | Low    |
| 71  | SECAM/PAL(SYS2)  | O   | Output terminal for TV broadcast system switching signal for video circuit control.                                                                                                                                                | Not fix | Low    | Low    | Low    |
| 72  | SLEEP(L)         | O   | Output terminal for super power save mode setting.<br>P-OFF in the super power save mode..... "Low".                                                                                                                               | High    | Low    | Low    | High   |
| 73  | PB60Hz(H)        | O   | Switching terminal for NTSC FM Audio trap filter in PB.<br>[VV (PB,Trick_PB/A-DUB, A-DUB-PS) mode and CTL is 60Hz] : "High"<br>[Other than above condition] : "Low"                                                                | Low     | Low    | Low    | Low    |
| 74  | ADUB(H)          | O   | Switching terminal for Bias oscillation noise filter in A-DUB mode.<br>[ADUB/ADUB-PS(Including Assemble/syncro/AV-Insert)] : "High"<br>[Other than above condition] : "Hi-Z"                                                       | Hi-Z    | Hi-Z   | Hi-Z   | Hi-Z   |
| 75  | N.C(VBI1)        | O   | Fix to Low.                                                                                                                                                                                                                        | Low     | Low    | Low    | Low    |
| 76  | P FAIL           | I   | Input terminal for Interrupt signal for power fail detection.                                                                                                                                                                      | In      | In     | In     | In     |
| 77  | IR               | I   | Input terminal for Interrupt signal from IR sensor emitted by Remo-Con.                                                                                                                                                            | In      | In     | In     | In     |
| 78  | P50 OUT          | O   | Output terminal for Project 50 serial data.                                                                                                                                                                                        | Not fix | Low    | Low    | Low    |
| 79  | CAP.ET           | O   | Output terminal for Capstan Torque command.                                                                                                                                                                                        | 0V      | 0V     | Low    | 0V     |
| 80  | CYL.ET           | O   | Output terminal for Cylinder Torque command.                                                                                                                                                                                       | 4.213V  | 4.213V | Low    | 4.213V |
| 81  | DIGI.LINK        | O   | Control signal for switching IR sensor.[only LOEWE model]                                                                                                                                                                          | Low     | Low    | Low    | Low    |
| 82  | HALF_WAVE(H)     | O   | Switching terminal for capstan driver speed mode.(FAST/SLOW)                                                                                                                                                                       | In      | In     | In     | In     |
| 83  | CAP.R/F          | O   | Switching terminal for capstan motor rotating direction.                                                                                                                                                                           | Low     | Low    | Low    | Low    |
| 84  | 125Hz            | O   | 125Hz pulse output terminal for clock adjustment.                                                                                                                                                                                  | Not fix | Low    | Low    | Low    |
| 85  | SHORT_DN         | I   | Short Circuit detection terminal for oscillation circuit in REC.<br>*When the "BIAS(H)" is "Low" and this terminal is "High", "F08" is displayed.<br>*When the "BIAS(H)" is "High" and this terminal is "low", "F07" is displayed. | In      | In     | In     | In     |
| 86  | N.C              | -   | Fix to Low.                                                                                                                                                                                                                        | Low     | Low    | Low    | Low    |
| 87  | N.C              | -   | Fix to Low.                                                                                                                                                                                                                        | Low     | Low    | Low    | Low    |
| 88  | N.C              | -   | Fix to Low.                                                                                                                                                                                                                        | Low     | Low    | Low    | Low    |
| 89  | FLD/T2 CLK       | O   | Serial clock output terminal for FIP driver and TEST_2(Factory use).                                                                                                                                                               | Not fix | Low    | Low    | Low    |
| 90  | FLD/T2 DATA IN   | I   | Serial data input terminal for FIP driver and TEST_2(Factory use).                                                                                                                                                                 | Not fix | In     | In     | In     |

| INPUT CONDITION     |               |            |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            |            | AUDIO OUTPUT RESULT |        |                     |                     |        |
|---------------------|---------------|------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|------------|---------------------|--------|---------------------|---------------------|--------|
| POWER               | AV2<br>SELECT | TV/<br>VTR | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out | AV2<br>Out          | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |        |
| OFF                 | ---           | ---        | ---       | ---          | ---         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
| VPS<br>STAND<br>BY  | EXT           | ---        | ---       | L            | NO.TU       | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
| or                  | or            | TIMER1     |           |              | C+.TU       | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
| or                  | or            | TIMER2     |           |              | AV1         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV1       | AV1        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV1       | AV1        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
| Personal<br>Planner |               |            |           |              | AV2         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV2       | AV2        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV2       | AV2        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
| Standby             |               |            |           |              | AV3         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV3       | AV3        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.NO      | L            | AV2 In              | AV1 In     | L            | L            | OFF       | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.C+      | L            | AV2 In              | AV1 In     | L            | L            | OFF       | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | H           | NO.TU        | L                   | VCR out    | AV1 In       | H            | H         | OFF       | TUN        | TUN        | Mute                | Mute   | Mute                | TUN                 | AV1 In |
|                     |               |            |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | H         | OFF       | TUN        | TUN        | Mute                | Mute   | Mute                | TUN                 | AV1 In |
|                     |               |            |           |              | C+.TU       | L            | VCR out             | AV1 In     | H            | H            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV1       | AV1        | Mute       | Mute                | Mute   | AV1 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV1       | AV1        | Mute       | Mute                | Mute   | AV1 In              | AV1 In              |        |
|                     |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV2       | AV2        | Mute       | Mute                | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV2       | AV2        | Mute       | Mute                | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV3       | AV3        | Mute       | Mute                | Mute   | AV3 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV3       | AV3        | Mute       | Mute                | Mute   | AV3 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              | SAT.C+      | L            | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     | DECODER       | ---        | ---       | L            | NO.TU       | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | C+.TU       | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | TUN       | TUN        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV1         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV1       | AV1        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV2         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV2       | AV2        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV3         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | AV3       | AV3        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.NO      | L            | AV2 In              | AV1 In     | L            | L            | OFF       | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.C+      | L            | AV2 In              | AV1 In     | L            | L            | OFF       | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | SAT       | SAT        | AV2 In     | AV1 In              | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           | H            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              | C+.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | Mute       | Mute                | Mute   | TUN                 | AV1 In              |        |
|                     |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | Mute       | Mute                | Mute   | AV1 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | Mute       | Mute                | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | Mute       | Mute                | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | Mute       | Mute                | Mute   | AV2 In              | AV1 In              |        |
|                     |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | Mute       | Mute                | Mute   | AV3 In              | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | Mute       | Mute                | Mute   | AV3 In              | AV1 In              |        |
|                     |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              | SAT.C+      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |
|                     |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | Mute       | Mute                | Mute   | SAT                 | AV1 In              |        |

| INPUT CONDITION |               |            |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            | AUDIO OUTPUT RESULT |            |        |                     |                     |        |        |        |        |       |
|-----------------|---------------|------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|---------------------|------------|--------|---------------------|---------------------|--------|--------|--------|--------|-------|
| POWER           | AV2<br>SELECT | TV/<br>VTR | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out          | AV2<br>Out | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |        |        |        |        |       |
| P.ON            | EXT           | TV         | EE        | L            | NO.TU       | ---          | VCR out             | VCR out    | L            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | INSEL  |        |        |        |       |
|                 |               |            |           |              | C+.TU       | ---          | VCR out             | VCR out    | L            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | INSEL  |        |        |       |
|                 |               |            |           |              | AV1         | ---          | VCR out             | VCR out    | L            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | INSEL  |        |        |       |
|                 |               |            |           |              | AV2         | ---          | VCR out             | VCR out    | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           |              | AV3         | ---          | VCR out             | VCR out    | L            | L            | OFF       | AV3       | AV3        | AV3 In              | AV3 In     | AV3 In | AV3 In              | AV3 In              | AV3 In | INSEL  |        |        |       |
|                 |               |            |           |              | SAT.NO      | ---          | VCR out             | VCR out    | L            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | INSEL  |        |        |       |
|                 |               |            |           | SAT.C+       | ---         | VCR out      | VCR out             | L          | L            | OFF          | SAT       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | INSEL  |        |        |       |
|                 |               |            |           | H            | NO.TU       | ---          | VCR out             | VCR out    | H            | H            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | TUN    | TUN    | INSEL  |       |
|                 |               |            |           |              | C+.TU       | ---          | VCR out             | VCR out    | H            | H            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | TUN    | TUN    | INSEL  |       |
|                 |               |            |           |              | AV1         | ---          | VCR out             | VCR out    | H            | H            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | AV1 In | INSEL  |        |       |
|                 |               |            |           |              | AV2         | ---          | VCR out             | VCR out    | H            | H            | OFF       | AV2       | AV2        | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | INSEL  |        |       |
|                 | AV3           | ---        | VCR out   |              | VCR out     | H            | H                   | OFF        | AV3          | AV3          | AV3 In    | AV3 In    | AV3 In     | AV3 In              | AV3 In     | AV3 In | AV3 In              | INSEL               |        |        |        |        |       |
|                 | SAT.NO        | ---        | VCR out   | VCR out      | H           | H            | OFF                 | SAT        | SAT          | SAT          | SAT       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | INSEL               |        |        |        |        |       |
|                 | SAT.C+        | ---        | VCR out   | VCR out      | H           | H            | OFF                 | SAT        | SAT          | SAT          | SAT       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | INSEL               |        |        |        |        |       |
|                 | VTR           | EE         | L         | NO.TU        | ---         | VCR out      | VCR out             | H          | H            | OFF          | TUN       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | INSEL  |        |        |       |
|                 |               |            |           | C+.TU        | ---         | VCR out      | VCR out             | H          | H            | OFF          | TUN       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | INSEL  |        |        |       |
|                 |               |            |           | AV1          | ---         | VCR out      | VCR out             | H          | H            | OFF          | AV1       | AV1       | AV1 In     | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | INSEL  |        |        |       |
|                 |               |            |           | AV2          | L           | VCR out      | VCR out             | H          | H            | ON           | AV2       | AV2       | AV2 In     | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           | M/H          | VCR out     | VCR out      | M/H                 | M/H        | ON           | AV2          | AV2       | AV2 In    | AV2 In     | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | INSEL  |        |        |        |       |
|                 | AV3           | ---        |           | VCR out      | VCR out     | H            | H                   | OFF        | AV3          | AV3          | AV3 In    | AV3 In    | AV3 In     | AV3 In              | AV3 In     | AV3 In | AV3 In              | INSEL               |        |        |        |        |       |
|                 | SAT.NO        | ---        | VCR out   | VCR out      | H           | H            | OFF                 | SAT        | SAT          | SAT          | SAT       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | INSEL               |        |        |        |        |       |
| SAT.C+          | ---           | VCR out    | VCR out   | H            | H           | OFF          | SAT                 | SAT        | SAT          | SAT          | SAT       | SAT       | SAT        | SAT                 | SAT        | SAT    | INSEL               |                     |        |        |        |        |       |
| H               | NO.TU         | ---        | VCR out   | VCR out      | H           | H            | OFF                 | TUN        | TUN          | TUN          | TUN       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | INSEL  |        |        |        |       |
|                 | C+.TU         | ---        | VCR out   | VCR out      | H           | H            | OFF                 | TUN        | TUN          | TUN          | TUN       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | INSEL  |        |        |        |       |
| P.ON            | EXT           | VTR        | EE        | H            | AV1         | ---          | VCR out             | VCR out    | H            | H            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | INSEL  |        |        |       |
|                 |               |            |           |              | AV2         | ---          | VCR out             | VCR out    | H            | H            | OFF       | AV2       | AV2        | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | INSEL  |        |       |
|                 |               |            |           |              | AV3         | ---          | VCR out             | VCR out    | H            | H            | OFF       | AV3       | AV3        | AV3 In              | AV3 In     | AV3 In | AV3 In              | AV3 In              | AV3 In | AV3 In | INSEL  |        |       |
|                 |               |            |           |              | SAT.NO      | ---          | VCR out             | VCR out    | H            | H            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | SAT    | INSEL  |        |       |
|                 |               |            |           |              | SAT.C+      | ---          | VCR out             | VCR out    | H            | H            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | SAT    | INSEL  |        |       |
|                 |               |            |           | VV           | ---         | NO.TU        | ---                 | VCR out    | VCR out      | M/H          | M/H       | OFF       | TUN        | PB                  | PB         | PB     | PB                  | PB                  | PB     | PB     | TUN    | INSEL  |       |
|                 |               |            |           |              |             | C+.TU        | ---                 | VCR out    | VCR out      | M/H          | M/H       | OFF       | TUN        | PB                  | PB         | PB     | PB                  | PB                  | PB     | PB     | TUN    | INSEL  |       |
|                 |               |            |           |              |             | AV1          | ---                 | VCR out    | VCR out      | M/H          | M/H       | OFF       | AV1        | PB                  | PB         | PB     | PB                  | PB                  | PB     | PB     | AV1 In | INSEL  |       |
|                 |               |            |           |              |             | AV2          | ---                 | VCR out    | VCR out      | M/H          | M/H       | OFF       | AV2        | PB                  | PB         | PB     | PB                  | PB                  | PB     | PB     | AV2 In | INSEL  |       |
|                 |               |            |           |              |             | AV3          | ---                 | VCR out    | VCR out      | M/H          | M/H       | OFF       | AV3        | PB                  | PB         | PB     | PB                  | PB                  | PB     | PB     | AV3 In | INSEL  |       |
|                 | SAT.NO        | ---        | VCR out   | VCR out      | M/H         | M/H          | OFF                 | SAT        | PB           | PB           | PB        | PB        | PB         | PB                  | PB         | PB     | SAT                 | INSEL               |        |        |        |        |       |
|                 | SAT.C+        | ---        | VCR out   | VCR out      | M/H         | M/H          | OFF                 | SAT        | PB           | PB           | PB        | PB        | PB         | PB                  | PB         | PB     | SAT                 | INSEL               |        |        |        |        |       |
|                 | DECODER       | TV         | EE        | L            | NO.TU       | L            | VCR out             | AV1 In     | L            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | TUN                 | AV1 In | INSEL  |        |        |       |
|                 |               |            |           |              | M/H         | AV2 In       | AV1 In              | M/H        | L            | ON           | TUN       | TUN       | AV2 In     | AV1 In              | TUN        | AV2 In | AV1 In              | TUN                 | INSEL  |        |        |        |       |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | L            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | TUN    | TUN    | INSEL  |       |
|                 |               |            |           |              | M/H         | VCR out      | TUN IN              | L          | L            | OFF          | AV2       | AV2       | AV2 In     | TUN                 | AV2 In     | AV2 In | AV2 In              | TUN                 | INSEL  |        |        |        |       |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | L            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | AV1 In | INSEL  |        |       |
|                 |               |            |           |              | M/H         | AV2 In       | AV1 In              | M/H        | L            | ON           | AV2       | AV2       | AV2 In     | AV1 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | INSEL  |        |       |
|                 |               |            |           |              | M/H         | AV2 In       | AV1 In              | M/H        | L            | ON           | AV2       | AV2       | AV2 In     | AV1 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV3 In              | AV3 In | AV3 In | INSEL  |        |       |
|                 |               |            |           |              | M/H         | AV2 In       | AV1 In              | M/H        | L            | ON           | AV3       | AV3       | AV2 In     | AV1 In              | AV3 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | L            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | SAT                 | SAT    | SAT    | INSEL  |        |       |
|                 |               |            |           |              | M/H         | AV2 In       | AV1 In              | M/H        | L            | ON           | SAT       | SAT       | AV2 In     | AV1 In              | SAT        | AV2 In | AV2 In              | AV2 In              | AV2 In | INSEL  |        |        |       |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | L            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | SAT    | TUN    |        |       |
|                 |               |            |           |              | M/H         | VCR out      | SAT IN              | L          | L            | OFF          | AV2       | AV2       | AV2 In     | SAT                 | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | TUN    |        |        |       |
|                 |               |            |           | H            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              | TUN    | TUN    | TUN    | AV1 In | INSEL |
|                 |               |            |           |              | M/H         | VCR out      | AV1 In              | H          | L            | OFF          | TUN       | TUN       | TUN        | AV1 In              | TUN        | TUN    | AV1 In              | TUN                 | TUN    | TUN    | AV1 In | INSEL  |       |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 | TUN    | TUN    | TUN    | TUN    | INSEL |
|                 |               |            |           |              | M/H         | VCR out      | TUN IN              | H          | L            | OFF          | AV2       | AV2       | AV2 In     | TUN                 | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | TUN    | INSEL  |       |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              | AV1 In | AV1 In | AV1 In | INSEL  |       |
|                 |               |            |           |              | M/H         | VCR out      | AV1 In              | H          | L            | OFF          | AV2       | AV2       | AV2 In     | AV1 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | INSEL  |        |       |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | AV2 In | INSEL  |       |
|                 |               |            |           |              | M/H         | VCR out      | AV1 In              | H          | L            | OFF          | AV2       | AV2       | AV2 In     | AV1 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | AV2 In | INSEL  |        |       |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV3 In              | AV3 In | AV3 In | AV3 In | INSEL  |       |
|                 |               |            |           |              | M/H         | VCR out      | AV1 In              | H          | L            | OFF          | AV3       | AV3       | AV3 In     | AV1 In              | AV3 In     | AV3 In | AV3 In              | AV3 In              | AV3 In | AV3 In | INSEL  |        |       |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | SAT                 | SAT    | SAT    | AV1 In | INSEL  |       |
|                 |               |            |           |              | M/H         | VCR out      | AV1 In              | H          | L            | OFF          | SAT       | SAT       | SAT        | AV1 In              | SAT        | SAT    | SAT                 | SAT                 | SAT    | SAT    | AV1 In | INSEL  |       |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | H            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 | SAT    | SAT    | SAT    | SAT    | INSEL |
| M/H             |               |            |           |              | VCR out     | SAT IN       | H                   | L          | ON           | AV2          | AV2       | AV2 In    | SAT        | AV2 In              | AV2 In     | AV2 In | AV2 In              | AV2 In              | AV2 In | SAT    | INSEL  |        |       |

| INPUT CONDITION |               |            |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            | AUDIO OUTPUT RESULT |            |        |                     |                     |
|-----------------|---------------|------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|---------------------|------------|--------|---------------------|---------------------|
| POWER           | AV2<br>SELECT | TV/<br>VTR | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out          | AV2<br>Out | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |
| P.ON            | DECODER       | VTR        | EE        | L            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | H            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | SAT        | AV2 In | AV2 In              | SAT                 |
|                 |               |            |           | H            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | H            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | SAT        | AV2 In | AV2 In              | SAT                 |
|                 |               |            | VV        | —            | NO.TU       | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | TUN       | PB         | PB                  | AV1 In     | PB     | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | TUN       | PB         | PB                  | AV1 In     | PB     | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | M/H          | L            | OFF       | TUN       | PB         | PB                  | TUN        | PB     | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | TUN        | PB     | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV1       | PB         | PB                  | AV1 In     | PB     | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | SAT       | PB         | PB                  | AV1 In     | PB     | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | SAT       | PB         | PB                  | AV1 In     | PB     | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | M/H          | L            | OFF       | SAT       | PB         | PB                  | SAT        | PB     | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | SAT        | PB     | AV2 In              | SAT                 |

NOTE: NO.TU: Tuner position, DECODER OFF (e.g. ARD)

RGB SW : OFF = HIGH, ON=LOW

C+.TU: Tuner position, DECODER ON (e.g. PREMI)

EE : Non-Playback signal

VV:Playback signal

\*[M/H] :In case of Personal Planner standby(not External Link), AV1 PB must not output 'M' or 'H'

| INPUT CONDITION |               |            |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            | AUDIO OUTPUT RESULT |            |        |                     |                     |
|-----------------|---------------|------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|---------------------|------------|--------|---------------------|---------------------|
| POWER           | AV2<br>SELECT | TV/<br>VTR | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out          | AV2<br>Out | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |
| P.ON            | DECODER       | VTR        | EE        | L            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | H            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | ON        | AV2       | AV2        | AV2 In              | SAT        | AV2 In | AV2 In              | SAT                 |
|                 |               |            |           | H            | NO.TU       | L            | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | TUN       | TUN        | TUN                 | AV1 In     | TUN    | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | SAT       | SAT        | SAT                 | AV1 In     | SAT    | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | H            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | SAT        | AV2 In | AV2 In              | SAT                 |
|                 |               |            | VV        | —            | NO.TU       | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | TUN       | PB         | PB                  | AV1 In     | PB     | TUN                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | TUN       | PB         | PB                  | AV1 In     | PB     | TUN                 | AV1 In              |
|                 |               |            |           |              | C+.TU       | L            | VCR out             | TUN IN     | M/H          | L            | OFF       | TUN       | PB         | PB                  | TUN        | PB     | TUN                 | TUN                 |
|                 |               |            |           |              |             | M/H          | VCR out             | TUN IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | TUN        | PB     | AV2 In              | TUN                 |
|                 |               |            |           |              | AV1         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV1       | PB         | PB                  | AV1 In     | PB     | AV1 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV2         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |               |            |           |              | AV3         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |               |            |           |              | SAT.NO      | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | SAT       | PB         | PB                  | AV1 In     | PB     | SAT                 | AV1 In              |
|                 |               |            |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | SAT       | PB         | PB                  | AV1 In     | PB     | SAT                 | AV1 In              |
|                 |               |            |           |              | SAT.C+      | L            | VCR out             | SAT IN     | M/H          | L            | OFF       | SAT       | PB         | PB                  | SAT        | PB     | SAT                 | SAT                 |
|                 |               |            |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | SAT        | PB     | AV2 In              | SAT                 |

NOTE: NO.TU: Tuner position, DECODER OFF (e.g. ARD)

RGB SW : OFF = HIGH, ON=LOW

C+.TU: Tuner position, DECODER ON (e.g. PREMI)

EE : Non-Playback signal

VV:Playback signal

\*[M/H] :In case of Personal Planner standby(not External Link), AV1 PB must not output 'M' or 'H'

| INPUT CONDITION                |               |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            | AUDIO OUTPUT RESULT |            |        |                     |                     |        |
|--------------------------------|---------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|---------------------|------------|--------|---------------------|---------------------|--------|
| POWER                          | AV2<br>SELECT | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out          | AV2<br>Out | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |        |
| OFF                            | ---           | ---       | ---          |             | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
| PDC<br>STAND<br>BY             | EXT<br><br>or | ---       | L            | TUN         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
| or                             | TIMER1        |           |              | AV1         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV1       | AV1        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV1       | AV1        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
| Personal<br>Planner<br>Standby | or            |           |              | AV2         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                | or            |           |              | AV3         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | AV3       | AV3        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                | TIMER2        |           |              | SAT.TU      | L            | AV2 In              | AV1 In     | L            | L            | OFF       | SAT       | SAT        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | *[M/H]       | L            | ON        | SAT       | SAT        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           | H            | TUN         | L            | VCR out             | AV1 In     | H            | H            | OFF       | TUN       | TUN        | Mute                | Mute       | Mute   | TUN                 | AV1 In              |        |
|                                |               |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | TUN       | TUN        | Mute                | Mute       | Mute   | TUN                 | AV1 In              |        |
|                                |               |           |              | AV1         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV1       | AV1        | Mute                | Mute       | Mute   | AV1 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV1       | AV1        | Mute                | Mute       | Mute   | AV1 In              | AV1 In              |        |
|                                |               |           |              | AV2         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV2       | AV2        | Mute                | Mute       | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV2       | AV2        | Mute                | Mute       | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              | AV3         | L            | VCR out             | AV1 In     | H            | H            | OFF       | AV3       | AV3        | Mute                | Mute       | Mute   | AV3 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | AV3       | AV3        | Mute                | Mute       | Mute   | AV3 In              | AV1 In              |        |
|                                |               |           |              | SAT.TU      | L            | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute                | Mute       | Mute   | SAT                 | AV1 In              |        |
|                                |               |           |              |             | M/H          | VCR out             | AV1 In     | H            | H            | OFF       | SAT       | SAT        | Mute                | Mute       | Mute   | SAT                 | AV1 In              |        |
| DECODER                        | ---           |           | L            | TUN         | L            | AV2 In              | AV1 In     | L            | L            | OFF       | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | M/H          | AV2 In              | AV1 In     | M/H          | L            | ON        | TUN       | TUN        | AV2 In              | AV1 In     | Mute   | AV2 In              | AV1 In              |        |
|                                |               |           |              |             | AV1          | L                   | AV2 In     | AV1 In       | L            | L         | OFF       | AV1        | AV1                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | AV2 In     | AV1 In       | M/H          | L         | ON        | AV2        | AV2                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             | AV2          | L                   | AV2 In     | AV1 In       | L            | L         | OFF       | AV2        | AV2                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | AV2 In     | AV1 In       | M/H          | L         | ON        | AV2        | AV2                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             | AV3          | L                   | AV2 In     | AV1 In       | L            | L         | OFF       | AV3        | AV3                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | AV2 In     | AV1 In       | M/H          | L         | ON        | AV3        | AV3                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             | SAT.TU       | L                   | AV2 In     | AV1 In       | L            | L         | OFF       | SAT        | SAT                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | AV2 In     | AV1 In       | M/H          | L         | ON        | SAT        | SAT                 | AV2 In     | AV1 In | Mute                | AV2 In              | AV1 In |
|                                |               |           |              | H           | TUN          | L                   | VCR out    | AV1 In       | H            | L         | OFF       | TUN        | TUN                 | Mute       | Mute   | Mute                | TUN                 | AV1 In |
|                                |               |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | L         | OFF       | TUN        | TUN                 | Mute       | Mute   | Mute                | TUN                 | AV1 In |
|                                |               |           |              |             | AV1          | L                   | VCR out    | AV1 In       | H            | L         | OFF       | AV1        | AV1                 | Mute       | Mute   | Mute                | AV1 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | L         | OFF       | AV2        | AV2                 | Mute       | Mute   | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             | AV2          | L                   | VCR out    | AV1 In       | H            | L         | OFF       | AV2        | AV2                 | Mute       | Mute   | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | L         | OFF       | AV2        | AV2                 | Mute       | Mute   | Mute                | AV2 In              | AV1 In |
|                                |               |           |              |             | AV3          | L                   | VCR out    | AV1 In       | H            | L         | OFF       | AV3        | AV3                 | Mute       | Mute   | Mute                | AV3 In              | AV1 In |
|                                |               |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | L         | OFF       | AV3        | AV3                 | Mute       | Mute   | Mute                | AV3 In              | AV1 In |
|                                |               |           |              |             | SAT.TU       | L                   | VCR out    | AV1 In       | H            | L         | OFF       | SAT        | SAT                 | Mute       | Mute   | Mute                | SAT                 | AV1 In |
|                                |               |           |              |             |              | M/H                 | VCR out    | AV1 In       | H            | L         | OFF       | SAT        | SAT                 | Mute       | Mute   | Mute                | SAT                 | AV1 In |

| INPUT CONDITION |                                                     |           |              |             |              | VIDEO OUTPUT RESULT |            |              |              |           |           |            | AUDIO OUTPUT RESULT |            |        |                     |                     |
|-----------------|-----------------------------------------------------|-----------|--------------|-------------|--------------|---------------------|------------|--------------|--------------|-----------|-----------|------------|---------------------|------------|--------|---------------------|---------------------|
| POWER           | AV2<br>SELECT                                       | EE/<br>VV | OSD<br>ON(H) | INPUT<br>CH | AV2<br>PB(H) | AV1<br>OUT          | AV2<br>OUT | AV1<br>PB(H) | AV2<br>PB(H) | RGB<br>SW | VCR<br>IN | VCR<br>OUT | AV1<br>Out          | AV2<br>Out | RF (C) | AV1 Out<br>Selector | AV2 Out<br>Selector |
| P.ON            | EXT<br><br>or<br><br>TIMER1<br><br>or<br><br>TIMER2 | EE        | L            | TUN         | —            | VCR out             | VCR out    | L            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | INSEL               |
|                 |                                                     |           |              | AV1         | —            | VCR out             | VCR out    | L            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | INSEL               |
|                 |                                                     |           |              | AV2         | —            | VCR out             | VCR out    | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV2 In     | AV2 In | AV2 In              | INSEL               |
|                 |                                                     |           |              | AV3         | —            | VCR out             | VCR out    | L            | L            | OFF       | AV3       | AV3        | AV3 In              | AV3 In     | AV3 In | AV3 In              | INSEL               |
|                 |                                                     |           |              | SAT.TU      | —            | VCR out             | VCR out    | L            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | INSEL               |
|                 |                                                     |           | H            | TUN         | —            | VCR out             | VCR out    | H            | H            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | INSEL               |
|                 |                                                     |           |              | AV1         | —            | VCR out             | VCR out    | H            | H            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | INSEL               |
|                 |                                                     |           |              | AV2         | —            | VCR out             | VCR out    | H            | H            | OFF       | AV2       | AV2        | AV2 In              | AV2 In     | AV2 In | AV2 In              | INSEL               |
|                 |                                                     |           |              | AV3         | —            | VCR out             | VCR out    | H            | H            | OFF       | AV3       | AV3        | AV3 In              | AV3 In     | AV3 In | AV3 In              | INSEL               |
|                 |                                                     |           |              | SAT.TU      | —            | VCR out             | VCR out    | H            | H            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | INSEL               |
|                 |                                                     | VV        | —            | TUN         | —            | VCR out             | VCR out    | M/H          | M/H          | OFF       | TUN       | PB         | PB                  | PB         | PB     | TUN                 | INSEL               |
|                 |                                                     |           |              | AV1         | —            | VCR out             | VCR out    | M/H          | M/H          | OFF       | AV1       | PB         | PB                  | PB         | PB     | AV1 In              | INSEL               |
|                 |                                                     |           |              | AV2         | —            | VCR out             | VCR out    | M/H          | M/H          | OFF       | AV2       | PB         | PB                  | PB         | PB     | AV2 In              | INSEL               |
|                 |                                                     |           |              | AV3         | —            | VCR out             | VCR out    | M/H          | M/H          | OFF       | AV3       | PB         | PB                  | PB         | PB     | AV3 In              | INSEL               |
|                 |                                                     |           |              | SAT.TU      | —            | VCR out             | VCR out    | M/H          | M/H          | OFF       | SAT       | PB         | PB                  | PB         | PB     | SAT                 | INSEL               |
|                 | DECODER                                             | EE        | L            | TUN         | L            | VCR out             | TUN IN     | L            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | TUN IN     | L            | L            | ON        | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |                                                     |           |              | AV1         | L            | VCR out             | AV1 In     | L            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV2         | L            | VCR out             | AV1 In     | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | L            | L            | ON        | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV3         | L            | VCR out             | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | L            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |                                                     |           | H            | SAT.TU      | L            | VCR out             | SAT IN     | L            | L            | OFF       | SAT       | SAT        | SAT                 | SAT        | SAT    | SAT                 | SAT                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | SAT IN     | L            | L            | ON        | AV2       | AV2        | AV2 In              | SAT        | AV2 In | AV2 In              | SAT                 |
|                 |                                                     |           |              | TUN         | L            | VCR out             | TUN IN     | H            | L            | OFF       | TUN       | TUN        | TUN                 | TUN        | TUN    | TUN                 | TUN                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | TUN IN     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | TUN        | AV2 In | AV2 In              | TUN                 |
|                 |                                                     |           |              | AV1         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV1       | AV1        | AV1 In              | AV1 In     | AV1 In | AV1 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV2         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV2       | AV2        | AV2 In              | AV1 In     | AV2 In | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV3         | L            | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | H            | L            | OFF       | AV3       | AV3        | AV3 In              | AV1 In     | AV3 In | AV3 In              | AV1 In              |
|                 |                                                     | VV        | —            | SAT.TU      | L            | VCR out             | SAT IN     | M/H          | L            | OFF       | SAT       | PB         | PB                  | SAT        | PB     | SAT                 | SAT                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |                                                     |           |              | TUN         | L            | VCR out             | TUN IN     | M/H          | L            | OFF       | TUN       | PB         | PB                  | TUN        | PB     | TUN                 | TUN                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | TUN IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | TUN        | PB     | AV2 In              | TUN                 |
|                 |                                                     |           |              | AV1         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV1       | PB         | PB                  | AV1 In     | PB     | AV1 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV2         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV2       | PB         | PB                  | AV1 In     | PB     | AV2 In              | AV1 In              |
|                 |                                                     |           |              | AV3         | L            | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |                                                     |           |              |             | M/H          | VCR out             | AV1 In     | M/H          | L            | OFF       | AV3       | PB         | PB                  | AV1 In     | PB     | AV3 In              | AV1 In              |
|                 |                                                     |           |              | SAT.TU      | L            | VCR out             | SAT IN     | M/H          | L            | OFF       | SAT       | PB         | PB                  | SAT        | PB     | SAT                 | SAT                 |
|                 |                                                     |           |              |             | M/H          | VCR out             | SAT IN     | M/H          | L            | OFF       | AV2       | PB         | PB                  | SAT        | PB     | AV2 In              | SAT                 |

NOTE: RGB SW : OFF = HIGH, ON=LOW

EE : Non-Playback signal

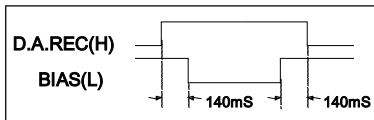
VV:Playback signal

\*[M/H] :In case of Personal Planner standby(not External Link), AV1 PB must not output 'M' or 'H'

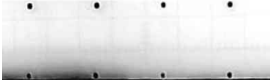
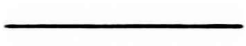
## SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

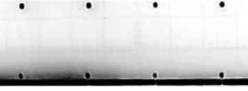
[illegible]

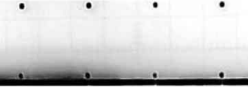
| No. | Port Name     | I/O | Description                                                                                                                                                                                                                                                                                                                                                                                          | P-OFF | P-Save | P-FAIL | Reset |
|-----|---------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------|-------|
| 1   | CURRENT_LIMIT | O   | Capstan motor current limit terminal.                                                                                                                                                                                                                                                                                                                                                                | Low   | Low    | Low    | Low   |
| 2   | F ADJUST      | O   | Analogue voltage output for HEAD frequency response adjustment                                                                                                                                                                                                                                                                                                                                       | Low   | Low    | Low    | Low   |
| 3   | N.C.          | —   | Low fix (No Connection.)                                                                                                                                                                                                                                                                                                                                                                             | Low   | Low    | Low    | Low   |
| 4   | C EMPHA(H)    | O   | Terminal of the Current emphasis video/FM audio recording current.<br>[HIFI/2HEAD ]:Fix to Low (Normal mode)<br>[4HEAD] :Fix to Low (factory mode)<br>Fix to High (Insert/AV Insert mode)<br>Others (Depend on tape speed)                                                                                                                                                                           | Low   | Low    | Low    | Low   |
| 5   | TRACKING_ENVE | O   | Playback envelope input for auto tracking adjustment and cvc.                                                                                                                                                                                                                                                                                                                                        | In    | In     | In     | In    |
| 6   | SLP(H)        | O   | Tape running speed output terminal.(Output signal depends on tape speed)<br>[High].....During NTSC_10H or PAL_9H mode<br>[Low ].....Except NTSC_10H or PAL_9H mode                                                                                                                                                                                                                                   | Low   | Low    | Low    | Low   |
| 7   | LP(H)         | O   | Tape running speed output terminal.(Output signal depends on tape speed)<br>[High].....During NTSC_4H/6H or PAL_6H/9H mode<br>[Low ].....Except NTSC_4H/6H or PAL_6H/9H mode<br>2HEAD model: Low Fix                                                                                                                                                                                                 | Low   | Low    | Low    | Low   |
| 8   | CPB           | I   | Input terminal for "PB (H)" from AV2.<br>[High].....3.85V - 5.0V<br>[Mid].....1.82V - 2.84V<br>[Low ]..... 0V - 0.81V                                                                                                                                                                                                                                                                                | In    | In     | In     | In    |
| 9   | AFC S         | I   | "S-curve" Input terminal from tuner.                                                                                                                                                                                                                                                                                                                                                                 | In    | In     | In     | In    |
| 10  | A-MUTE(H)     | O   | Audio mute output terminal for RF Converter.                                                                                                                                                                                                                                                                                                                                                         | High  | High   | Low    | High  |
| 11  | AV1_8IN       | I   | Input terminal for "PB (H)" from AV1.<br>[High].....3.85V - 5.0V<br>[Mid].....1.82V - 2.84V<br>[Low ]..... 0V - 0.81V                                                                                                                                                                                                                                                                                | In    | In     | In     | In    |
| 12  | N/S/T2/T3     | I   | Mode select terminal<br>[NORMAL mode ]: More than 4.0V<br>[SERVICE mode]: 2.5V - 4.0V<br>[TEST_2 mode ]: 1.0V - 2.5V<br>[TEST_3 mode ]: 0V - 1.0V                                                                                                                                                                                                                                                    | In    | In     | In     | In    |
| 13  | S-PHOTO       | I   | Tape end sensor input terminal.(Photo sensor input from supply side)<br>[Black Tape]: more than 2.6V<br>[Lead Tape]: Less than 2.4V                                                                                                                                                                                                                                                                  | In    | In     | In     | In    |
| 14  | T-PHOTO       | I   | Tape beginning sensor input terminal.(Photo sensor input from take-up side)<br>[Black Tape]: more than 2.6V<br>[Lead Tape]: Less than 2.4V                                                                                                                                                                                                                                                           | In    | In     | In     | In    |
| 15  | ABS_NORM(H)   | I   | (Input terminal for FM audio envelope output level detection)                                                                                                                                                                                                                                                                                                                                        | In    | In     | In     | In    |
| 16  | N.C           | —   | Low fix (No Connection.)                                                                                                                                                                                                                                                                                                                                                                             | Low   | Low    | Low    | Low   |
| 17  | PLAY_REC(L)   | O   | Output terminal for switching the capstan voltage.<br>[Other than PLAY/REC mode].....Always "High".<br>[JOG/Shuttle mode in PLAY mode ].....Always "High".<br>After 5 seconds from PLAY/REC mode completion, it changes to "Low".<br>During "Low" outputs, it checks every main capstan FG, when the no FG is inputted in a rotation, it changes to "High" and it keeps "high" by cassette ejection. | Low   | Low    | Low    | Low   |
| 18  | VSYNC(L)      | O   | Output terminal for V_sync detection result.<br>[Vsync exist] : "Low"<br>[Vsync not exist: "High"                                                                                                                                                                                                                                                                                                    | Low   | Low    | Low    | Low   |
| 19  | D.FM.REC(H)   | O   | Timing output terminal for FM_Audio recording current.                                                                                                                                                                                                                                                                                                                                               | Low   | Low    | Low    | Low   |
| 20  | ART.V/H/N     | O   | Output terminal for Artificial V synchronization signal.                                                                                                                                                                                                                                                                                                                                             | Low   | Low    | Low    | Low   |

| No.         | Port Name     | I/O       | Description                                                                                                                                                                                                                                                                                                                                                                  | P-OFF       | P-Save    | P-FAIL    | Reset |   |      |        |   |      |     |   |   |      |      |     |      |
|-------------|---------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|-----------|-------|---|------|--------|---|------|-----|---|---|------|------|-----|------|
| 21          | ROTARY.SW     | O         | Output terminal for rotary switch.                                                                                                                                                                                                                                                                                                                                           | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 22          | H.A.SW        | O         | Output terminal for HEAD AMP switch.                                                                                                                                                                                                                                                                                                                                         | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 23          | ENVE.SELECT   | I         | Input terminal for envelope selection.                                                                                                                                                                                                                                                                                                                                       | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 24          | VIDEO.H.SW    | O         | Output terminal for video HEAD switch.                                                                                                                                                                                                                                                                                                                                       | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 25          | A.H.SW        | O         | Output terminal for FM audio HEAD switch.                                                                                                                                                                                                                                                                                                                                    | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 26          | A.DEF(H)      | O         | Audio Mute output terminal for tuner and decoder.<br>[High].....During VCR mode is NORMAL PLAY and VV mode.                                                                                                                                                                                                                                                                  | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 27          | PROG.ON(H)    | O         | I/O control to switch IIC bus for LW-programmer.<br>H:IIC bus is connected to AV2.<br>L:IIC bus is not connected to AV2.                                                                                                                                                                                                                                                     | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 28          | AVPB-H(L)     | O         | "PB-(H)"output terminal for AV2<br>*Details, refer to 21pin control specifications.<br>*The signal output from Pin-8 of 21pin terminal is shown below. <table><tr><th>pin8 \ Name</th><th>AVPB-H(L)</th><th>AVPBM-(H)</th></tr><tr><td>High</td><td>L</td><td>Hi-Z</td></tr><tr><td>Middle</td><td>H</td><td>Hi-Z</td></tr><tr><td>Low</td><td>H</td><td>L</td></tr></table> | pin8 \ Name | AVPB-H(L) | AVPBM-(H) | High  | L | Hi-Z | Middle | H | Hi-Z | Low | H | L | High | High | Low | High |
| pin8 \ Name | AVPB-H(L)     | AVPBM-(H) |                                                                                                                                                                                                                                                                                                                                                                              |             |           |           |       |   |      |        |   |      |     |   |   |      |      |     |      |
| High        | L             | Hi-Z      |                                                                                                                                                                                                                                                                                                                                                                              |             |           |           |       |   |      |        |   |      |     |   |   |      |      |     |      |
| Middle      | H             | Hi-Z      |                                                                                                                                                                                                                                                                                                                                                                              |             |           |           |       |   |      |        |   |      |     |   |   |      |      |     |      |
| Low         | H             | L         |                                                                                                                                                                                                                                                                                                                                                                              |             |           |           |       |   |      |        |   |      |     |   |   |      |      |     |      |
| 29          | AVPB-M(H)     | O         |                                                                                                                                                                                                                                                                                                                                                                              | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 30          | GND(D)        | —         | GND                                                                                                                                                                                                                                                                                                                                                                          | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 31          | 20MHz.IN      | I         | Main oscillator input                                                                                                                                                                                                                                                                                                                                                        | ---         | STOP      | STOP      | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 32          | 20MHz.OUT     | O         | Main oscillator output                                                                                                                                                                                                                                                                                                                                                       | ---         | STOP      | STOP      | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 33          | +5V(D)        | I         | 5V input terminal                                                                                                                                                                                                                                                                                                                                                            | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 34          | 32KHz IN      | I         | Sub oscillator input                                                                                                                                                                                                                                                                                                                                                         | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 35          | 32KHz OUT     | O         | Sub oscillator output                                                                                                                                                                                                                                                                                                                                                        | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 36          | NC(VCONT)     | I         | Video Control                                                                                                                                                                                                                                                                                                                                                                | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |
| 37          | V EE(L)       | O         | Output terminal for switch between EE and VV.                                                                                                                                                                                                                                                                                                                                | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 38          | D REC(H)      | O         | Output terminal for video recording current control.                                                                                                                                                                                                                                                                                                                         | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 39          | D.A.REC(H)    | O         | Control terminal for normal audio recording current.                                                                                                                                                                                                                                                                                                                         | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 40          | BIAS(L)       | O         | Bias oscillation Control terminal for Linear audio recording current. <div></div>                                                                                                                                                                                                         | High        | Hi-Z      | Hi-Z      | High  |   |      |        |   |      |     |   |   |      |      |     |      |
| 41          | FM.MUTE(H)    | O         | Output terminal for audio mute control.                                                                                                                                                                                                                                                                                                                                      | High        | High      | Low       | High  |   |      |        |   |      |     |   |   |      |      |     |      |
| 42          | FULL ERASE(L) | O         | Output terminal for control FULL ERASE HEAD.                                                                                                                                                                                                                                                                                                                                 | Low         | Low       | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 43          | POWER_KEY     | I         | Input terminal for the unit power button.<br>It switches ON to OFF and/or OFF to ON when down edge is detected.                                                                                                                                                                                                                                                              | In          | In        | In        | In    |   |      |        |   |      |     |   |   |      |      |     |      |
| 44          | POS.SW3       | I         | Input terminal for mecha position.                                                                                                                                                                                                                                                                                                                                           | In          | In        | In        | In    |   |      |        |   |      |     |   |   |      |      |     |      |
| 45          | POS.SW2       | I         | Input terminal for mecha position.                                                                                                                                                                                                                                                                                                                                           | In          | In        | In        | In    |   |      |        |   |      |     |   |   |      |      |     |      |
| 46          | POS.SW1       | I         | Input terminal for mecha position.                                                                                                                                                                                                                                                                                                                                           | In          | In        | In        | In    |   |      |        |   |      |     |   |   |      |      |     |      |
| 47          | POWER OFF(H)  | O         | ON/OFF Control terminal for power circuit.<br>Power off condition: "High" is existed.<br>("Low" is existed when the mechanism and/or circuit operation is activated.)                                                                                                                                                                                                        | High        | High      | Low       | High  |   |      |        |   |      |     |   |   |      |      |     |      |
| 48          | FIP(L)        | O         | Output terminal for FIP on/off control signal.<br>("Low" is existed when the power off condition under the "FIP OFF" setting.)                                                                                                                                                                                                                                               | Not fix     | High      | Low       | Low   |   |      |        |   |      |     |   |   |      |      |     |      |
| 49          | P50 IN        | I         | Input terminal for Project 50 serial signal.                                                                                                                                                                                                                                                                                                                                 | In          | In        | In        | In    |   |      |        |   |      |     |   |   |      |      |     |      |
| 50          | LC.OSC IN     | I         | The oscillation input terminal for OSD dot clock.                                                                                                                                                                                                                                                                                                                            | ---         | ---       | ---       | ---   |   |      |        |   |      |     |   |   |      |      |     |      |

| No. | Port Name       | I/O | Description                                                         | P-OFF   | P-Save | P-FAIL | Reset |
|-----|-----------------|-----|---------------------------------------------------------------------|---------|--------|--------|-------|
| 91  | FLD/T2 DATA OUT | O   | Serial data output terminal for FIP driver and TEST_2(Factory use). | Not fix | Low    | Low    | Low   |
| 92  | FLD_CS          | O   | Chip select terminal for FIP driver.                                | Not fix | Low    | Low    | Low   |
| 93  | T.REEL.PULSE    | I   | Input terminal for Take-up Reel sensor pulse.                       | In      | In     | In     | In    |
| 94  | S.REEL.PULSE    | I   | Input terminal for Supply Reel sensor pulse.                        | In      | In     | In     | In    |
| 95  | DAVN            | I   | DAVN signal from Slicer                                             | In      | In     | In     | In    |
| 96  | EEP_WR          | O   | Write enable for EEPROM<br>H:READ only L:Write                      | High    | High   | Low    | High  |
| 97  | OSD IIC CLK     | O   | IIC clock for EEPROM,I/O and slicer                                 | Not fix | Low    | Low    | Low   |
| 98  | OSD IIC DATA    | I/O | IIC data for EEPROM,I/O and slicer                                  | Not fix | Low    | Low    | Low   |
| 99  | MAIN IIC CLK    | O   | IIC clock for AV1CHIP,FM audio,Tuner,Decoder and RFC                | Not fix | Low    | Low    | Low   |
| 100 | MAIN IIC DATA   | I/O | IIC data for AV1CHIP,FM audio,Tuner,Decoder and RFC                 | Not fix | Low    | Low    | Low   |
| 101 | N.C             | --  | Low fix terminal.                                                   | Low     | Low    | Low    | Low   |
| 102 | N.C             | --  | Low fix terminal.                                                   | Low     | Low    | Low    | Low   |
| 103 | FG.AMP.OUT      | O   | Output from internal FG Amplifier                                   | ---     | ---    | ---    | ---   |
| 104 | FG.AMP.IN       | I   | Input for internal FG Amplifier                                     | ---     | ---    | ---    | ---   |
| 105 | GND(A)          | I   | GND                                                                 | ---     | ---    | ---    | ---   |
| 106 | GND             | I   | GND                                                                 | ---     | ---    | ---    | ---   |
| 107 | PFG             | I   | Cylinder PG/FG input terminal                                       | ---     | ---    | ---    | ---   |
| 108 | OREF            | O   | Output from internal reference voltage (2.5V)                       | ---     | ---    | ---    | ---   |
| 109 | IREF            | I   | Input for internal reference voltage                                | ---     | ---    | ---    | ---   |
| 110 | to GND          | --  | Connect to GND                                                      | ---     | ---    | ---    | ---   |
| 111 | CTL.HEAD(-)     | I   | Input signal from CTL HEAD(+)                                       | ---     | ---    | ---    | ---   |
| 112 | CTL.HEAD(+)     | I   | Input signal from CTL HEAD(-)                                       | ---     | ---    | ---    | ---   |
| 113 | CTL.AMP.REF     | I   | Input for internal CTL amplifier reference voltage                  | ---     | ---    | ---    | ---   |
| 114 | PB.CTL.OUT      | O   | Output from internal CTL amplifier                                  | ---     | ---    | ---    | ---   |
| 115 | +5V(A)          | I   | 5V input terminal                                                   | ---     | ---    | ---    | ---   |
| 116 | +5V(AD)         | I   | 5V input terminal                                                   | ---     | ---    | ---    | ---   |

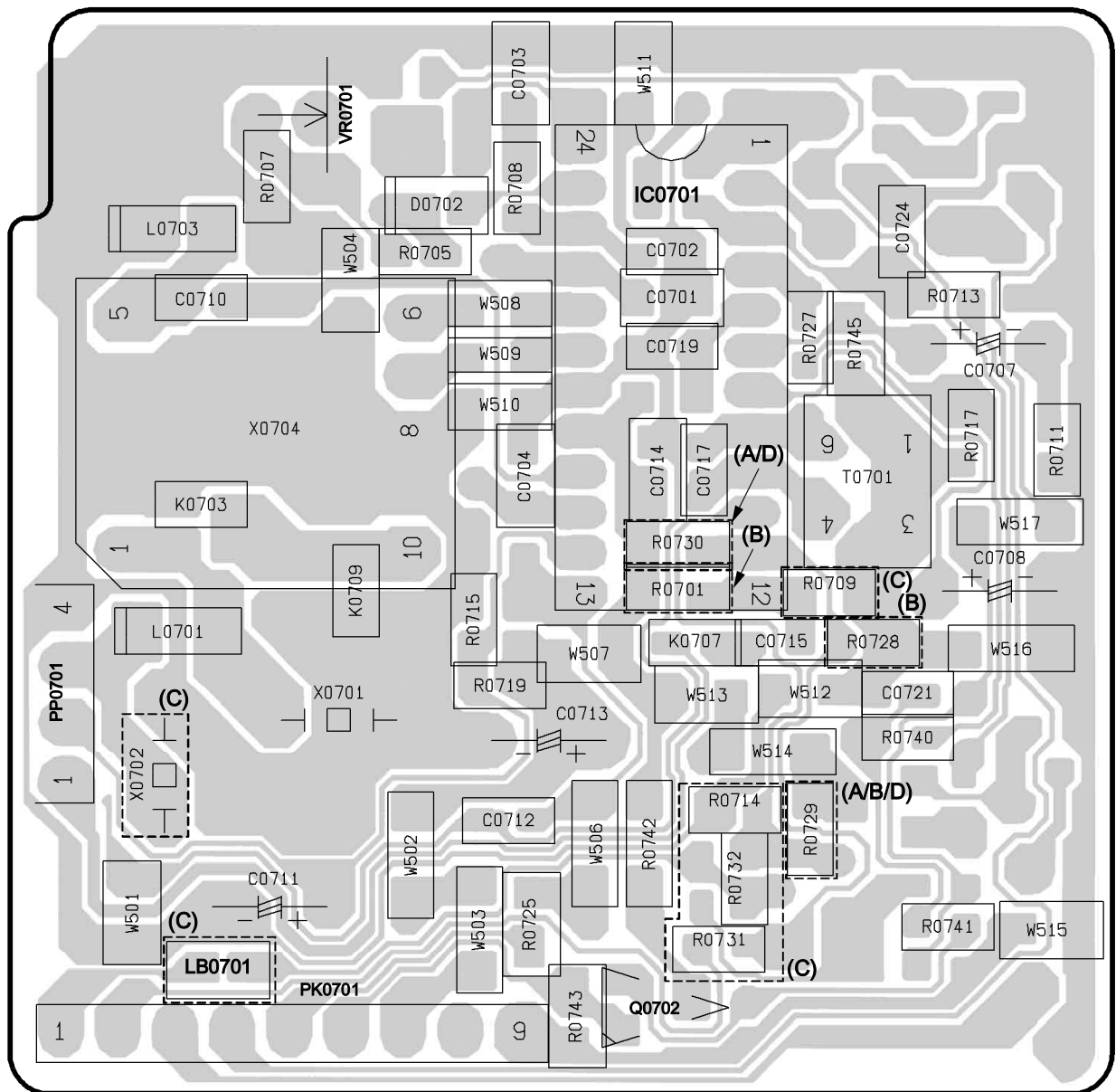
|                                                                                                                                         |                                                                                                                                     |                                                                                                                                    |                                                                                                                                     |                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <br>T1101-3 STOP<br>9.0Vp-p (2msec. div.)               | <br>T1101-7 STOP<br>100Vp-p (5μsec. div.)          | <br>IC1101-1 STOP<br>470Vp-p (5μsec. div.)        | <br>IC1101-2 STOP<br>8.0Vp-p (10μsec. div.)       | <br>IC1101-4 STOP<br>0.5Vp-p (10μsec. div.)       |
| <br>IC1101-5 STOP<br>0.6Vp-p (10μsec. div.)             | <br>IC6001-20 PAUSE<br>5.0Vp-p (10msec. div.)      | <br>IC6001-21 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-24 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-61 REC<br>2.4Vp-p (20μsec. div.)       |
| <br>IC6001-68 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-89 REC<br>5.0Vp-p (10msec. div.)        | <br>IC6001-90,91 REC<br>5.0Vp-p (10msec. div.)    | <br>IC6001-93,94 FF/REW<br>5.0Vp-p (1msec. div.)  | <br>IC6001-97,98 REC<br>5.0Vp-p (10msec. div.)    |
| <br>IC6001-99 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-100 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-107 REC<br>5.0Vp-p (10msec. div.)      | <br>IC6001-111,112 REC<br>6.0Vp-p (10msec. div.)  | <br>IC6001-114 PLAY<br>4.2Vp-p (10msec. div.)     |
| <br>IC2501-1,2,16 REC<br>8.6Vp-p (5msec. div.)        | <br>IC3001-2 REC<br>1.2Vp-p (5msec. div.)        | <br>IC3001-4 PLAY<br>5.0Vp-p (5msec. div.)      | <br>IC3001-14 REC<br>0.4Vp-p (5msec. div.)      | <br>IC3001-15 PLAY<br>0.5Vp-p (20μsec. div.)    |
| <br>IC3001-20 PLAY<br>150mVp-p (20μsec. div.)         | <br>IC3001-24 REC/PLAY<br>5.0Vp-p (10msec. div.) | <br>IC3001-37 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-38 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-42,43 PLAY<br>0.4Vp-p (20μsec. div.) |
| <br>IC3001-48,50 REC<br>1.0Vp-p (20μsec. div.)        | <br>IC3001-52 REC/PLAY<br>2.0Vp-p (20μsec. div.) | <br>IC3001-78 REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC4501-9,14 REC<br>1.2Vp-p (5msec. div.)    | <br>IC4501-21 REC<br>1.2Vp-p (5msec. div.)      |
| <br>IC4501-53,57<br>REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC3501-1 REC/PLAY<br>5.0Vp-p (10msec. div.)  | <br>IC3501-30 PLAY<br>0.4Vp-p (5msec. div.)     | <br>IC3501-31 REC<br>0.3Vp-p (5msec. div.)      |                                                                                                                                      |

|                                                                                                                                         |                                                                                                                                     |                                                                                                                                    |                                                                                                                                     |                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <br>T1101-3 STOP<br>9.0Vp-p (2msec. div.)               | <br>T1101-7 STOP<br>100Vp-p (5μsec. div.)          | <br>IC1101-1 STOP<br>470Vp-p (5μsec. div.)        | <br>IC1101-2 STOP<br>8.0Vp-p (10μsec. div.)       | <br>IC1101-4 STOP<br>0.5Vp-p (10μsec. div.)       |
| <br>IC1101-5 STOP<br>0.6Vp-p (10μsec. div.)             | <br>IC6001-20 PAUSE<br>5.0Vp-p (10msec. div.)      | <br>IC6001-21 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-24 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-61 REC<br>2.4Vp-p (20μsec. div.)       |
| <br>IC6001-68 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-89 REC<br>5.0Vp-p (10msec. div.)        | <br>IC6001-90,91 REC<br>5.0Vp-p (10msec. div.)    | <br>IC6001-93,94 FF/REW<br>5.0Vp-p (1msec. div.)  | <br>IC6001-97,98 REC<br>5.0Vp-p (10msec. div.)    |
| <br>IC6001-99 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-100 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-107 REC<br>5.0Vp-p (10msec. div.)      | <br>IC6001-111,112 REC<br>6.0Vp-p (10msec. div.)  | <br>IC6001-114 PLAY<br>4.2Vp-p (10msec. div.)     |
| <br>IC2501-1,2,16 REC<br>8.6Vp-p (5msec. div.)        | <br>IC3001-2 REC<br>1.2Vp-p (5msec. div.)        | <br>IC3001-4 PLAY<br>5.0Vp-p (5msec. div.)      | <br>IC3001-14 REC<br>0.4Vp-p (5msec. div.)      | <br>IC3001-15 PLAY<br>0.5Vp-p (20μsec. div.)    |
| <br>IC3001-20 PLAY<br>150mVp-p (20μsec. div.)         | <br>IC3001-24 REC/PLAY<br>5.0Vp-p (10msec. div.) | <br>IC3001-37 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-38 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-42,43 PLAY<br>0.4Vp-p (20μsec. div.) |
| <br>IC3001-48,50 REC<br>1.0Vp-p (20μsec. div.)        | <br>IC3001-52 REC/PLAY<br>2.0Vp-p (20μsec. div.) | <br>IC3001-78 REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC4501-9,14 REC<br>1.2Vp-p (5msec. div.)    | <br>IC4501-21 REC<br>1.2Vp-p (5msec. div.)      |
| <br>IC4501-53,57<br>REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC3501-1 REC/PLAY<br>5.0Vp-p (10msec. div.)  | <br>IC3501-30 PLAY<br>0.4Vp-p (5msec. div.)     | <br>IC3501-31 REC<br>0.3Vp-p (5msec. div.)      |                                                                                                                                      |

|                                                                                                                                         |                                                                                                                                     |                                                                                                                                    |                                                                                                                                     |                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <br>T1101-3 STOP<br>9.0Vp-p (2msec. div.)               | <br>T1101-7 STOP<br>100Vp-p (5μsec. div.)          | <br>IC1101-1 STOP<br>470Vp-p (5μsec. div.)        | <br>IC1101-2 STOP<br>8.0Vp-p (10μsec. div.)       | <br>IC1101-4 STOP<br>0.5Vp-p (10μsec. div.)       |
| <br>IC1101-5 STOP<br>0.6Vp-p (10μsec. div.)             | <br>IC6001-20 PAUSE<br>5.0Vp-p (10msec. div.)      | <br>IC6001-21 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-24 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-61 REC<br>2.4Vp-p (20μsec. div.)       |
| <br>IC6001-68 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-89 REC<br>5.0Vp-p (10msec. div.)        | <br>IC6001-90,91 REC<br>5.0Vp-p (10msec. div.)    | <br>IC6001-93,94 FF/REW<br>5.0Vp-p (1msec. div.)  | <br>IC6001-97,98 REC<br>5.0Vp-p (10msec. div.)    |
| <br>IC6001-99 REC<br>5.0Vp-p (10msec. div.)             | <br>IC6001-100 REC<br>5.0Vp-p (10msec. div.)       | <br>IC6001-107 REC<br>5.0Vp-p (10msec. div.)      | <br>IC6001-111,112 REC<br>6.0Vp-p (10msec. div.)  | <br>IC6001-114 PLAY<br>4.2Vp-p (10msec. div.)     |
| <br>IC2501-1,2,16 REC<br>8.6Vp-p (5msec. div.)        | <br>IC3001-2 REC<br>1.2Vp-p (5msec. div.)        | <br>IC3001-4 PLAY<br>5.0Vp-p (5msec. div.)      | <br>IC3001-14 REC<br>0.4Vp-p (5msec. div.)      | <br>IC3001-15 PLAY<br>0.5Vp-p (20μsec. div.)    |
| <br>IC3001-20 PLAY<br>150mVp-p (20μsec. div.)         | <br>IC3001-24 REC/PLAY<br>5.0Vp-p (10msec. div.) | <br>IC3001-37 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-38 REC/PLAY<br>5.0Vp-p (5msec. div.) | <br>IC3001-42,43 PLAY<br>0.4Vp-p (20μsec. div.) |
| <br>IC3001-48,50 REC<br>1.0Vp-p (20μsec. div.)        | <br>IC3001-52 REC/PLAY<br>2.0Vp-p (20μsec. div.) | <br>IC3001-78 REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC4501-9,14 REC<br>1.2Vp-p (5msec. div.)    | <br>IC4501-21 REC<br>1.2Vp-p (5msec. div.)      |
| <br>IC4501-53,57<br>REC/PLAY<br>1.2Vp-p (5msec. div.) | <br>IC3501-1 REC/PLAY<br>5.0Vp-p (10msec. div.)  | <br>IC3501-30 PLAY<br>0.4Vp-p (5msec. div.)     | <br>IC3501-31 REC<br>0.3Vp-p (5msec. div.)      |                                                                                                                                      |

| TV DEMODULATOR PACK C.B.A. |     |
|----------------------------|-----|
| <b>Transistor</b>          |     |
| Q0702                      | A-3 |
| <b>Integrated Circuit</b>  |     |
| IC0701                     | C-2 |
| <b>Adjustment</b>          |     |
| T0701                      | B-3 |
| VR0701                     | D-2 |
| <b>Connector</b>           |     |
| PK0701                     | A-2 |
| PP0701                     | B-1 |
| ADDRESS INFORMATION        |     |

(VEP07A23S:NV-FJ631EG/EGY/EC,FJ630EG/EGY/EC/ECN)  
(VEP07A23T:NV-FJ630B)  
(VEP07A23U:NV-FJ630BL)



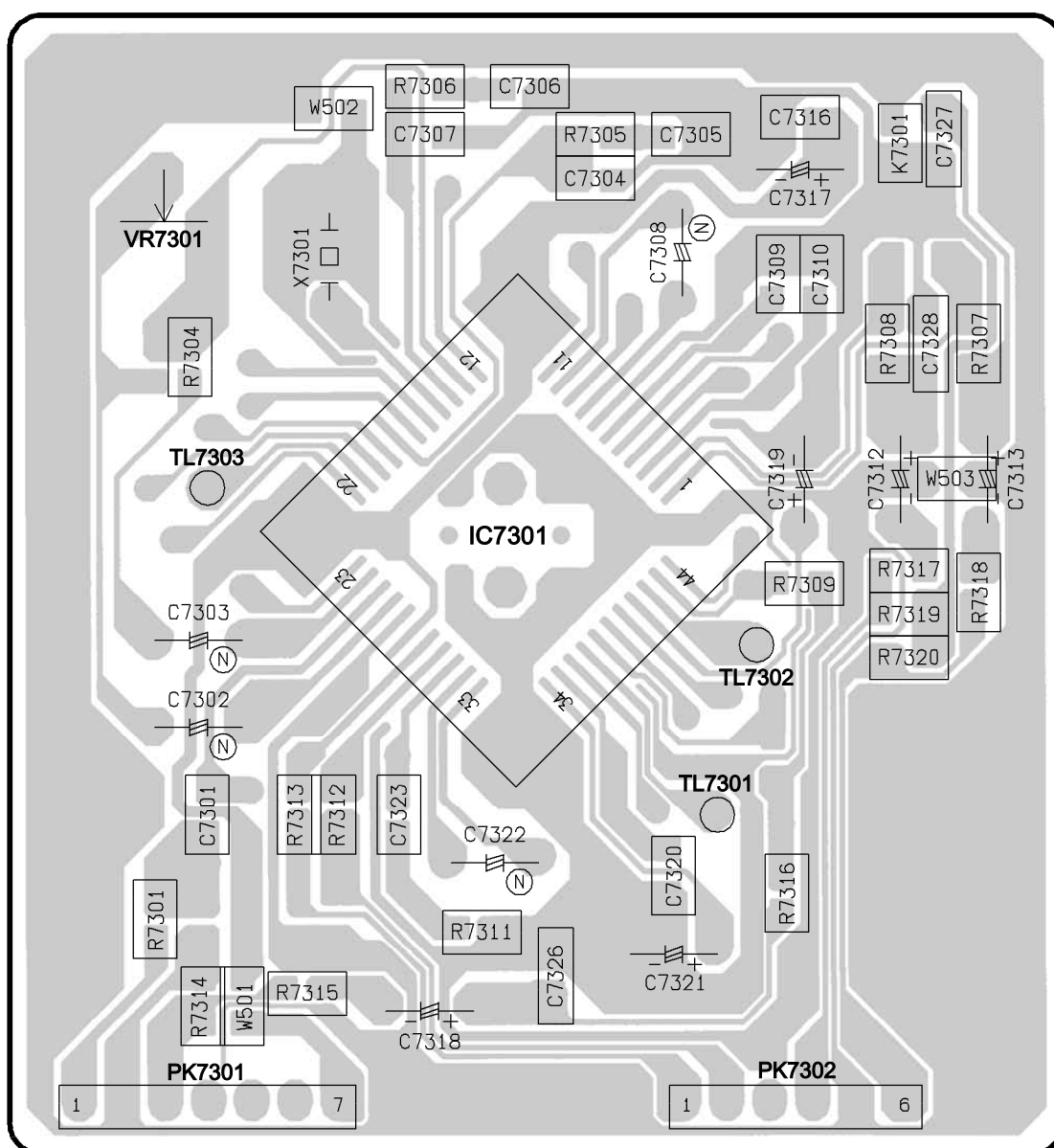
NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
TV DEMODULATOR PACK C.B.A.



| DECODER PACK C.B.A. |     |
|---------------------|-----|
| Integrated Circuit  |     |
| IC7301              | B-2 |
| Test Point          |     |
| TL7301              | A-2 |
| TL7302              | B-2 |
| TL7303              | B-1 |
| Adjustment          |     |
| VR7301              | C-1 |
| Connector           |     |
| PK7301              | A-1 |
| PK7302              | A-2 |

ADDRESS INFORMATION

(VEP07A16A:NV-FJ631EG/EGY,FJ630EG/EGY)



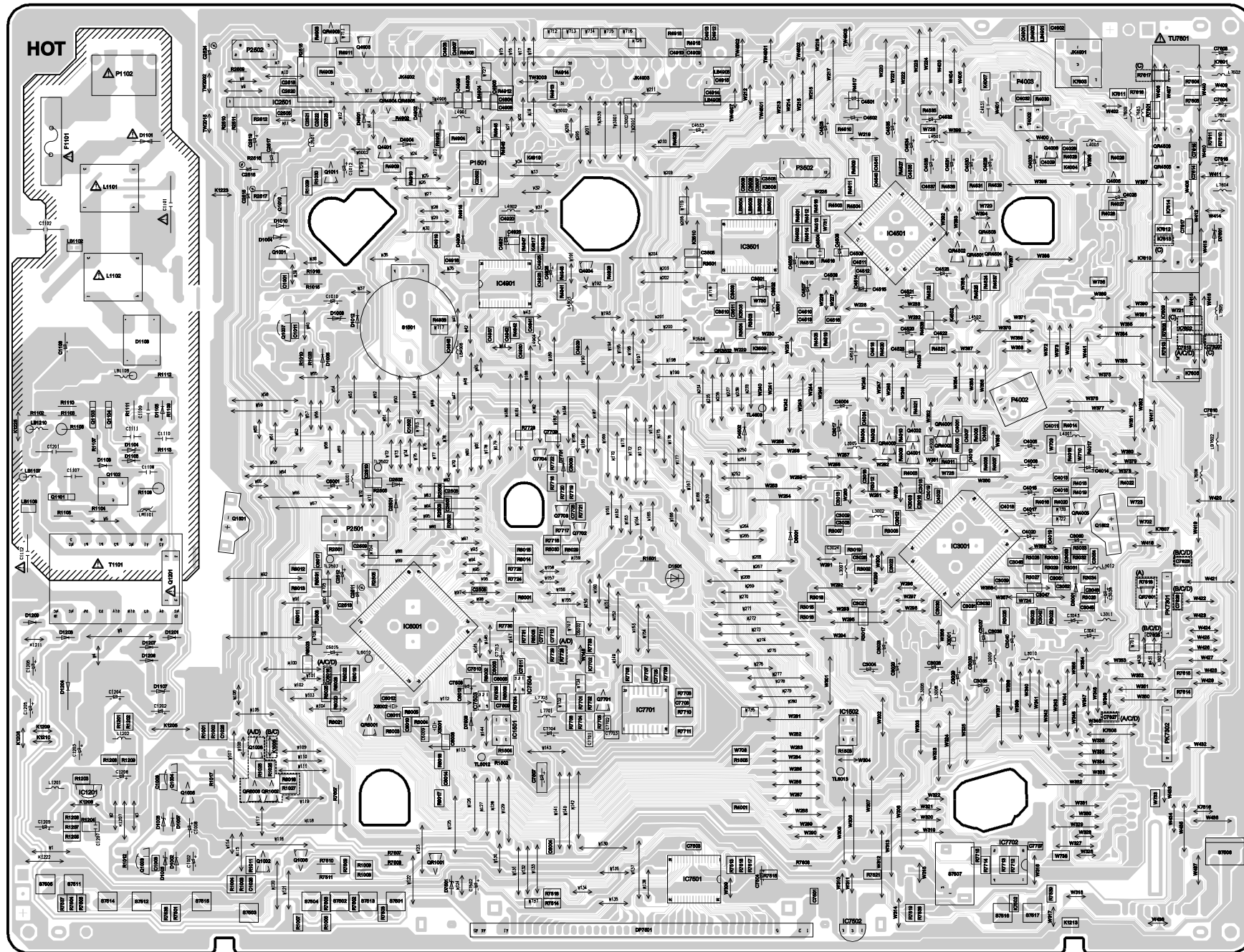
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FJ630EG/EGY  
DECODER PACK C.B.A.

1

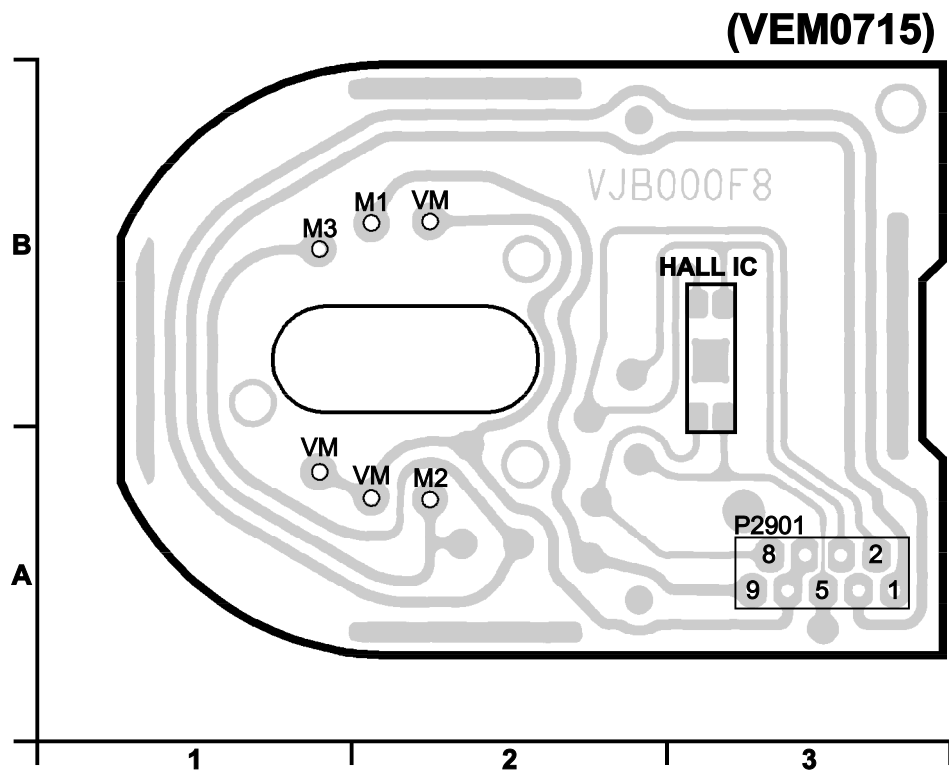
2

3

(VEP06E55F:NV-FJ631EG/EGY,FJ630EG/EGY)(VEP06E55G:NV-FJ630B)(VEP06E55H:NV-FJ630BL)(VEP06E55J:NV-FJ631EC,FJ630EC/ECN)



NV-FJ631EG/EGY/EC,FJ630EG/EGY/B/BL/EC/ECN MAIN C.B.A.



| CYLINDER STATOR UNIT |     |
|----------------------|-----|
| Integrated Circuit   |     |
| HALL IC              | B-3 |
| Connector            |     |
| P2901                | A-3 |
| ADDRESS INFORMATION  |     |

NV-FJ631EG/EGY/EC,  
FJ630EG/EGY/B/BL/EC/ECN  
CYLINDER STATOR UNIT